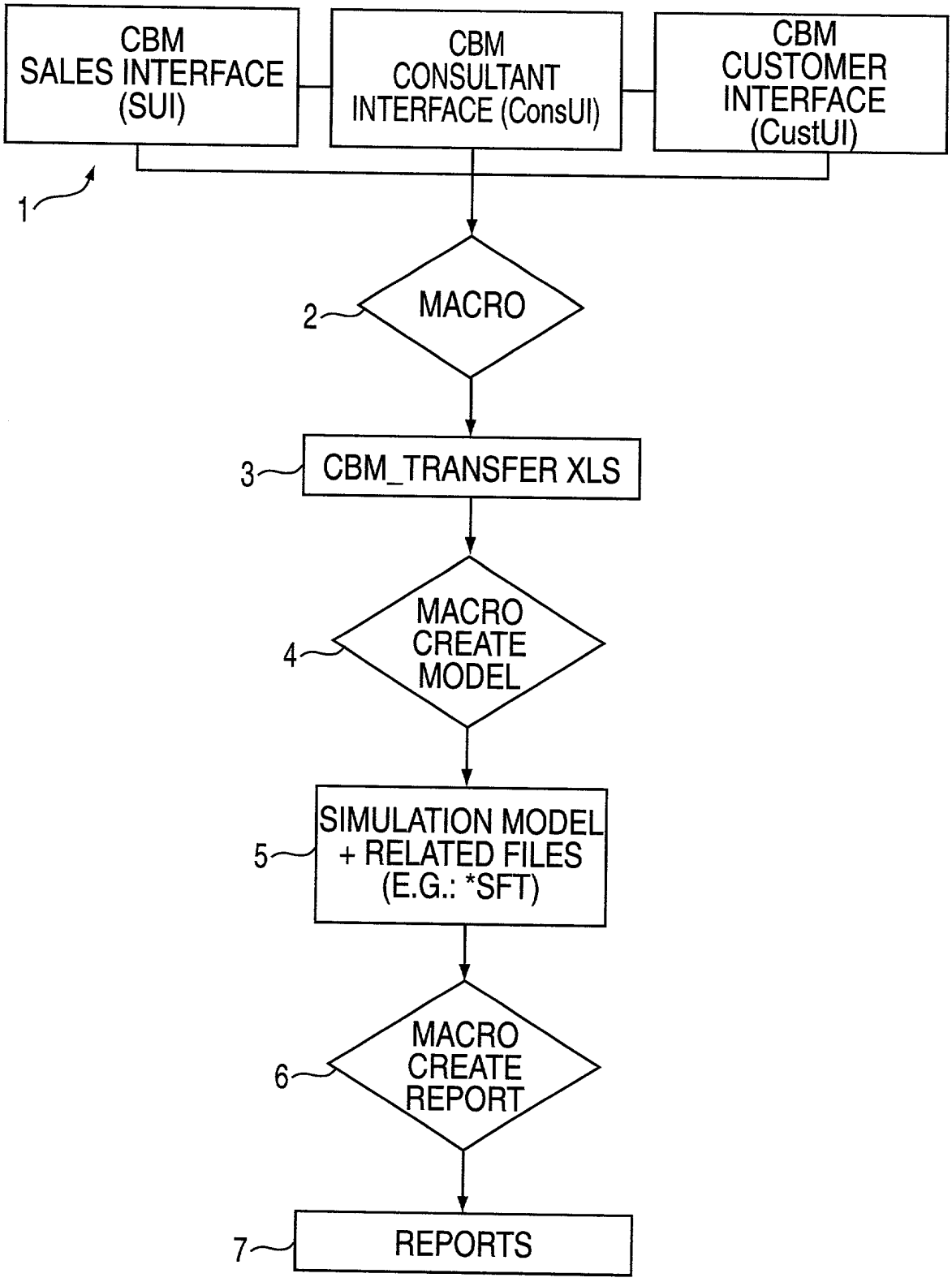


FIG. 1

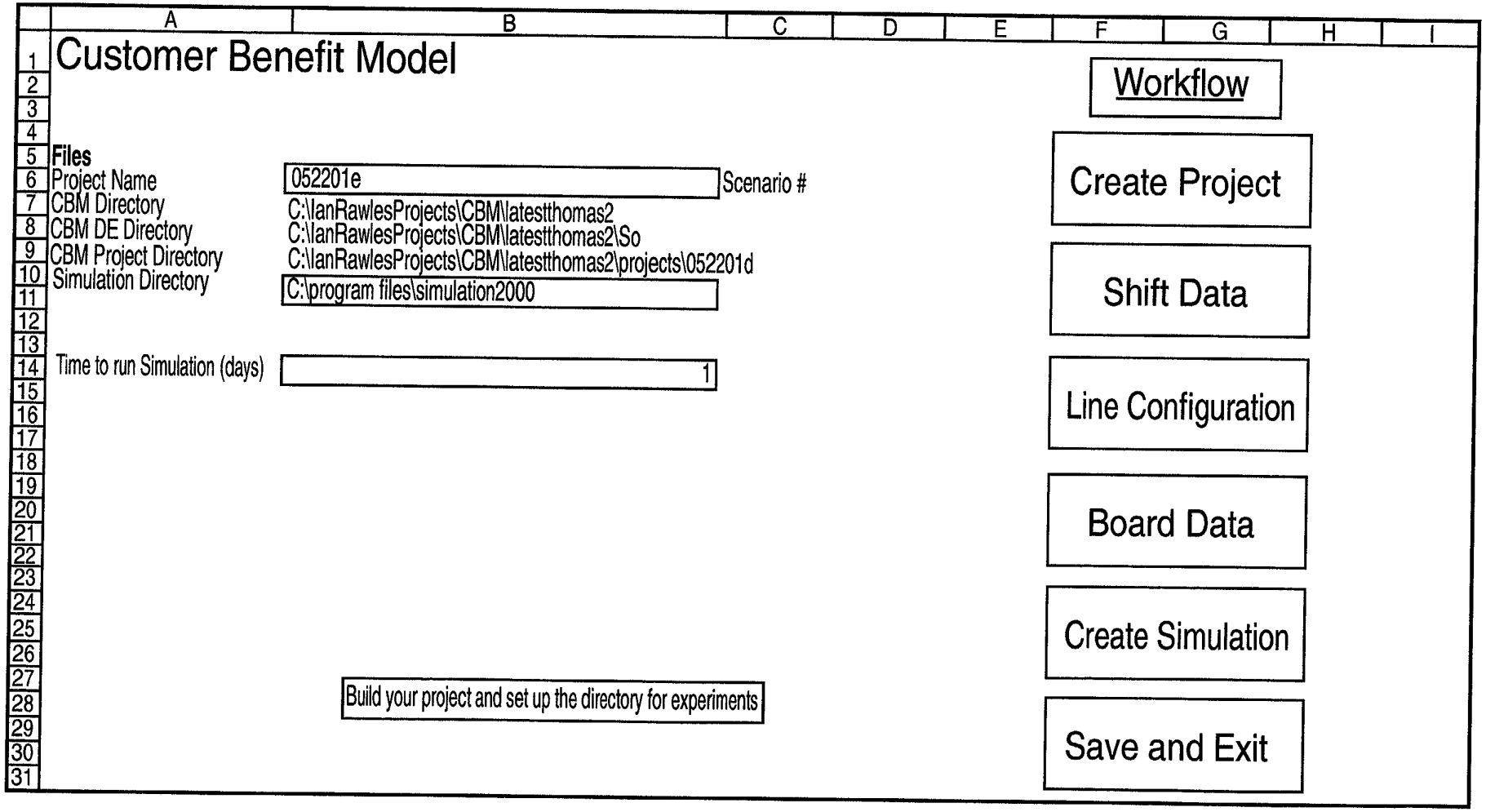


FIG. 2

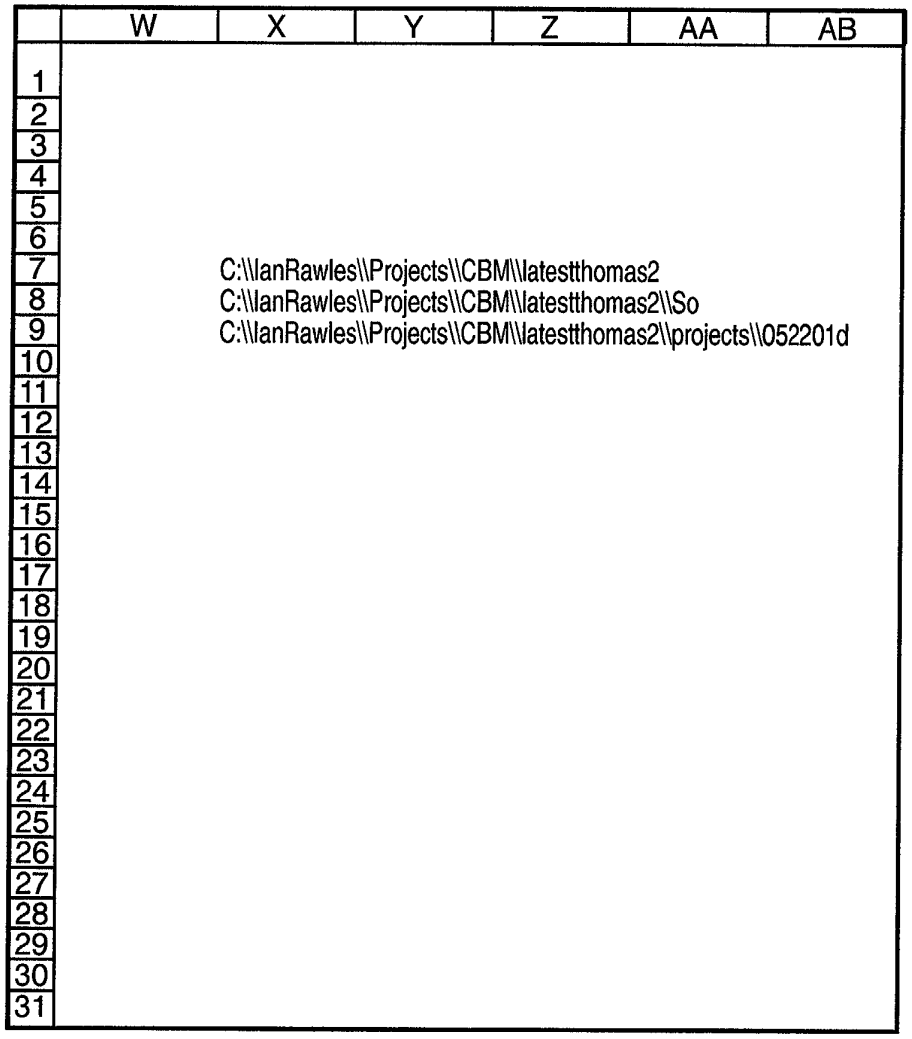


FIG. 2A

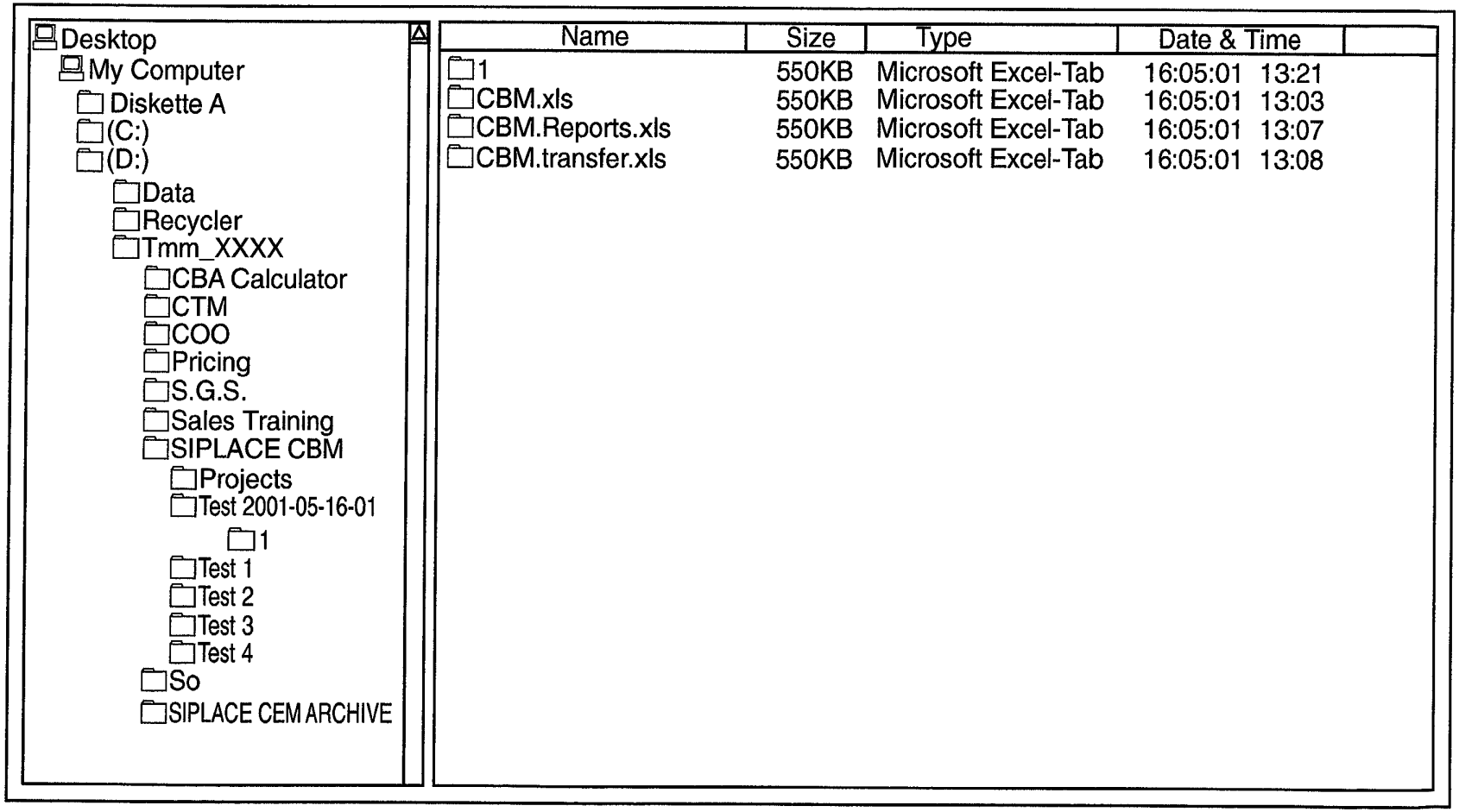

Desktop
My Computer
Diskette A
(C:)
(D:)
Data
Recycler
Tmm_XXXX
CBA Calculator
CTM
COO
Pricing
S.G.S.
Sales Training
SIPLACE CBM
Projects
Test 2001-05-16-01
1
Test 1
Test 2
Test 3
Test 4
So
SIPLACE CEM ARCHIVE
Name
Size
Type
Date & Time
1 550KB Microsoft Excel-Tab 16:05:01 13:21
CBM.xls 550KB Microsoft Excel-Tab 16:05:01 13:03
CBM.Reports.xls 550KB Microsoft Excel-Tab 16:05:01 13:07
CBM.transfer.xls 550KB Microsoft Excel-Tab 16:05:01 13:08

FIG. 3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1					Main																
2	Shift Schedule				SHIFT 1								SHIFT 2								
3					shift start	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift end	shift start	break1 start	break1 end	lunch start	lunch end	break2 start	break2 end	shift end	shift start
4	Monday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00
5	Tuesday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00
6	Wednesday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00
7	Thursday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00
8	Friday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00
9	Saturday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00
10	Sunday			14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	23:00	23:00
11	shifts apply for model			0																	
12	initial Offset			1																	
13	Only lunch break applies			0	not working																
14	Breaks apply for machines			0																	
15	Weeks per year			50																	
16	Days off per year			10																	
17	Hours per day			24.00																	
18	Hours per day/average			23.31																	
19	Hours per week			168.00																	
20	Hours per week/average			153.20																	
21	Hours per year			8160.00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
22					shift start	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift end	shift start	break1 start	break1 end	lunch start	lunch end	break2 start	break2 end	shift end	shift start
23				#																	
24				1																	
25				2																	
26				3																	
27				4																	
28				5																	
29				6																	
30				10	6:00	8:00	8:15	10:00	10:30			14:00	14:00	16:00	16:15	18:00	18:30			22:00	22:00
				11																	

FIG. 4

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
31				12	7:00			12:00	13:00			15:00	15:00			20:00	21:00			23:00	23:00
32				13	7:00	8:00	8:15	12:00	12:30	15:00	15:15	19:30	19:30	20:00	20:15	0:00	0:30	3:00	3:15	7:00	
33				14	7:00			12:00	13:00			15:00	15:00			20:00	21:00			23:00	23:00
34				15																	
35				16																	
36				17																	
37				18																	
38				19																	
39				20																	
40				21																	
41				22																	
42				23																	

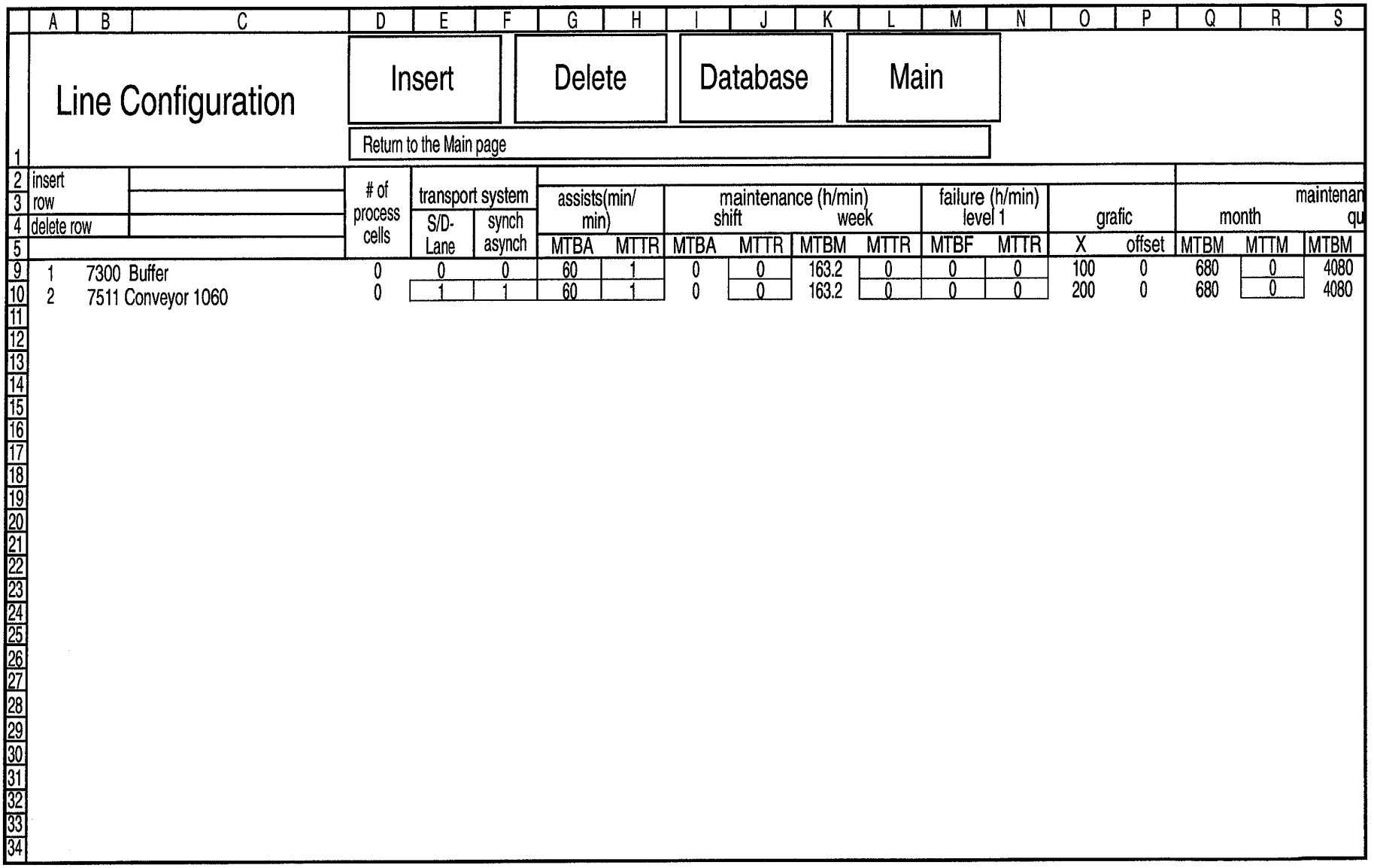
FIG. 4A

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
1																				
2	SHIFT 3							shift 1				shift 2				shift 3				
3	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift end	total	lunch	break1	break2	total	lunch	break1	break2	total	lunch	break1	break2	
4	23:00	23:00	4:00	5:00	5:00	5:00	7:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	1
5	23:00	23:00	4:00	5:00	5:00	5:00	7:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	1
6	23:00	23:00	4:00	5:00	5:00	5:00	7:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	1
7	23:00	23:00	4:00	5:00	5:00	5:00	7:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	1
8	23:00	23:00	4:00	5:00	5:00	5:00	7:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	1
9	23:00	23:00	4:00	5:00	5:00	5:00	7:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	1
10	23:00	23:00	4:00	5:00	5:00	5:00	7:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	8:00	1:00	0:00	0:00	1
11								56:00	7:00	0:00	0:00	56:00	7:00	0:00	0:00	56:00	7:00	0:00	0:00	7
12								168:00												
13								168:00												
14								24:00												
15																				
16																				
17																				
18																				
19																				
20																				
21	18	19	20	21	22	23	24													
22	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift end													
23																				
24																				
25																				
26																				
27																				
28																				
29	0:00	0:15	2:00	2:30			6:00	→ Default												
30																				

FIG. 4B

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
31			4:00	5:00			7:00	→Customer 1												
32								→Customer 2												
33			4:00	5:00			7:00	→Customer 3												
34								→Customer 4												
35																				
36																				
37																				
38																				
39																				
40																				
41																				
42																				

FIG. 4C



Line Configuration

Insert | Delete | Database | Main

Return to the Main page

insert row

delete row

		# of process cells	transport system		assists(min/min)		maintenance (h/min) shift		maintenance (h/min) week		failure (h/min) level 1		grafic		maintenance month		maintenance qu
			S/D-Lane	synch asynch	MTBA	MTTR	MTBA	MTTR	MTBM	MTTR	MTBF	MTTR	X	offset	MTBM	MTTM	MTBM
1	7300 Buffer	0	0	0	60	1	0	0	163.2	0	0	0	100	0	680	0	4080
2	7511 Conveyor 1060	0	1	1	60	1	0	0	163.2	0	0	0	200	0	680	0	4080

FIG. 5

	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1														
2	long term													
3	e (h / min)			failure (h /min)				grafic		Witness Module Single Lane	Witness Module Dual Lane	Initial Position		
4	rter	year		level 2		level 3								
5	MTTM	MTBM	MTTM	MTBF	MTTR	MTBF	MTTR	length	offset					
9	0	8160	0	0	0	0	0	100	0	Buffers	0	B1		
10	0	8160	0	0	0	0	0	0	0	Conv2_1	Conv2_2	conv5_2001		
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														
31														
32														
33														
34														

FIG. 5A

	AU	AV	AW	AX	AY	AZ
1				Bare Board Loader		
2				Buffer		
3				Conveyor 1060		
4				Conveyor 1590		
5				Conveyor 2380		
9				F4 x 2 / SPL		
10				F4 x 3 / SPL		
11				F5		
12				F5 x 2 / SPL		
13				F5 x 3 / SPL		
14				Flip Station 180		
15				HS-50		
16				HS-50 x 2 / SPL		
17				HS-50 x 3 / SPL		
18				Last Lift		
19				Magazine Buffer MB100		
20				Magazine Buffer MB50		
21				Magazine Loader ML02		
22				Magazine Loader ML05		
23				Magazine Unloader MIJ02		
24				Magazine Unloader MIJ05		
25				Printer pro-flow		
26				Printer pro-flow temp control		
27				Printer squegee operation		
28				Printer squegee operation temp control		
29				RX 261		
30				RX 262		
31				RX 331		
32				RX 332		
33				RX 411		
34				RX 412		

FIG. 5B

	AU	AV	AW	AX	AY	AZ
35				S-20		
36				S-23		
37				S-25		
38				Shuttle-1 lane to 2 lane		
39				Shuttle-2 lane to 1 lane		
40				Telescopic Gate TG		
41				Turn Station TS		

FIG. 5C

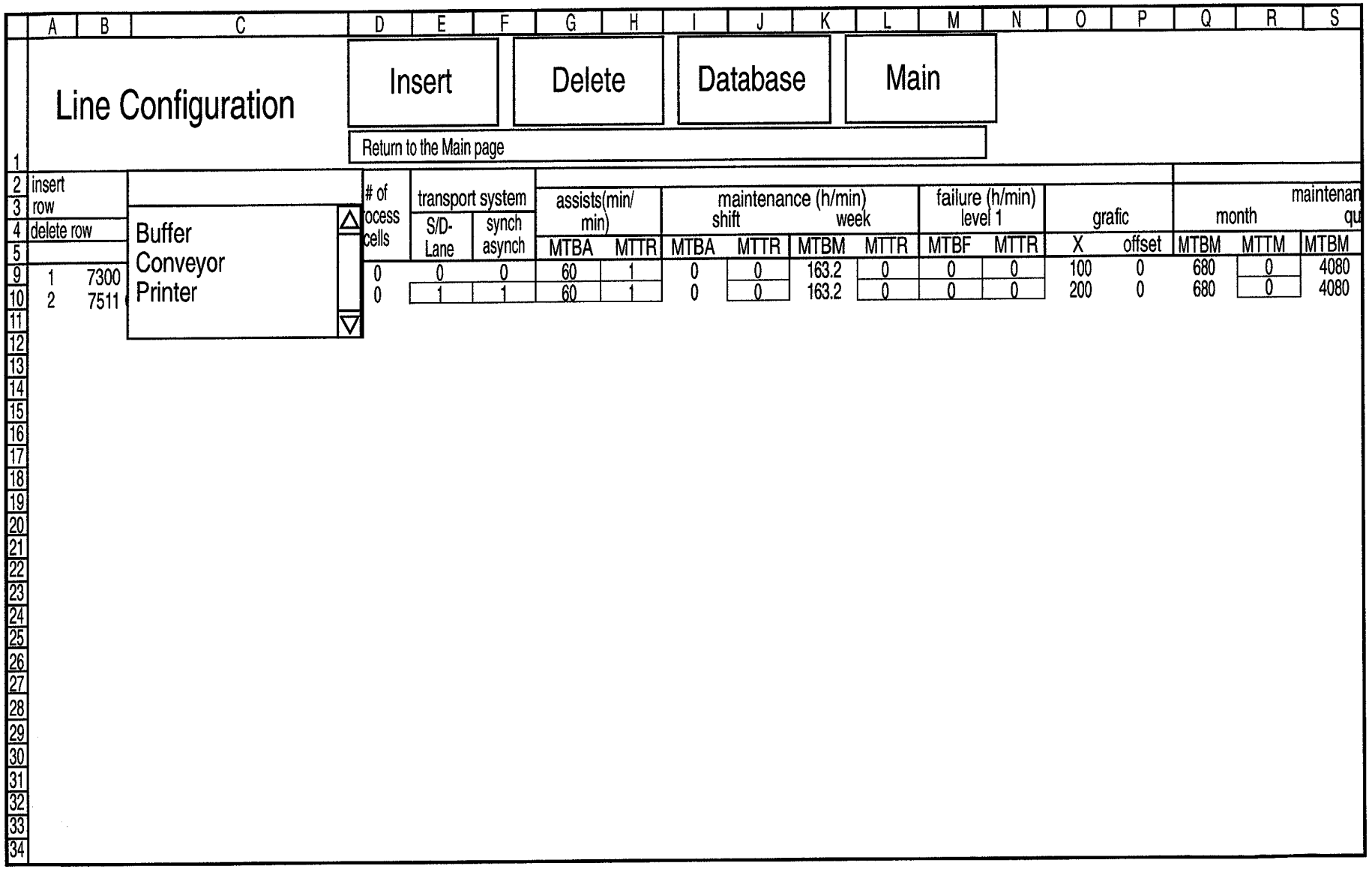

Line Configuration
Insert
Delete
Database
Main
Return to the Main page
insert row
delete row
Buffer
Conveyor
Printer
# of process cells
transport system
S/D-Lane
synch asynch
assists(min/min)
maintenance (h/min)
shift
week
failure (h/min)
level 1
grafic
maintenan
month
qu
MTBA
MTTR
MTBA
MTTR
MTBM
MTTR
MTBF
MTTR
X
offset
MTBM
MTTM
MTBM
1 7300
2 7511
0 0 0 60 1 0 0 163.2 0 0 0 100 0 680 0 4080
0 1 1 60 1 0 0 163.2 0 0 0 200 0 680 0 4080

FIG. 6

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Line															
2	Database							failure (h / min)						maintenan				
3						assists (min / min)		level 1		level 2		level 2		shift		weekly		mo
4						MTBF	MTTR	MTBF	MTTR	MTBF	MTTR	MTBF	MTTR	MTBM	MTTM	MTBM	MTTM	MTBM
5		1														163.20		680.00
6		2														163.20		680.00
7		3														163.20		680.00
8		4														163.20		680.00
9		5														163.20		680.00
10		6														163.20		680.00
11		7														163.20		680.00
12		8														163.20		680.00
13		9														163.20		680.00
14		10														163.20		680.00
15		11														163.20		680.00
16		12														163.20		680.00
17		13														163.20		680.00
18		14														163.20		680.00
19		15														163.20		680.00
20		16														163.20		680.00
21		17														163.20		680.00
22		18														163.20		680.00
23		19														163.20		680.00
24		20														163.20		680.00
25	Bare Board Loader	7580	1	1	0	60	1									163.20		680.00
26	Buffer	7300	0	1	0	60	1									163.20		680.00
27	Conveyor 1060	7511	1	1	0	60	1									163.20		680.00
28	Conveyor 1590	7521	1	1	0	60	1									163.20		680.00
29	Conveyor 2380	7531	1	1	0	60	1									163.20		680.00
30	Conveyor 530	7501	1	1	0	60	1									163.20		680.00
31	Conveyor 790	7541	1	1	0	60	1									163.20		680.00
32	F4	1040	1	1	1	60	1									163.20		680.00

FIG. 7

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x 2/SPL	1042	1	1	2	60	1						450			163.20		680.00
34	F4 x 3SPL	1043	1	1	3	60	1						875			163.20		680.00
35	F5	1050	1	1	1	60	1						200			163.20		680.00
36	F5 x 2/SPL	1052	1	1	2	60	1						450			163.20		680.00
37	F5 x 3/SPL	1053	1	1	3	60	1						875			163.20		680.00
38	Flip Station 180	7580	1	1	0	60	1						200			163.20		680.00
39	HS-50	1500	1	1	2	60	1						400			163.20		680.00
40	HS-50 x 2/SPL	1502	1	1	4	60	1						850			163.20		680.00
41	HS-50 x 3/SPL	1503	1	1	6	60	1						1250			163.20		680.00
42	Last Lift	7500	0	0	0	60	1						700			163.20		680.00
43	Magazine Buffer MB100	7320	0	0	0	60	1						100			163.20		680.00
44	Magazine Buffer MB50	7310	0	0	0	60	1						100			163.20		680.00
45	Magazine Loader ML02	7600	1	1	0	60	1						200			163.20		680.00
46	Magazine Loader ML05	7610	1	1	0	60	1						200			163.20		680.00
47	Magazine Unloader MU02	7601	1	1	0	60	1						200			163.20		680.00
48	Magazine Unloader MU05	7611	1	1	0	60	1						200			163.20		680.00
49	Printer pro-flow	9003	1	1	1	60	1						200			163.20		680.00
50	Printer pro-flow temp control	9004	1	1	1	60	1						200			163.20		680.00
51	Printer squegee operation	9001	1	1	1	60	1						200			163.20		680.00
52	Printer squeegee operation temp control	9002	1	1	1	60	1						200			163.20		680.00
53	RX 261	8001	1	1	1	60	1						700			163.20		680.00
54	RX 262	8002	1	1	1	60	1						700			163.20		680.00
55	RX 331	8003	1	1	1	60	1						700			163.20		680.00
56	RX 332	8004	1	1	1	60	1						700			163.20		680.00
57	RX 411	8005	1	1	1	60	1						700			163.20		680.00
58	RX 412	8006	1	1	1	60	1						700			163.20		680.00
59	S-20	1200	1	1	1	60	1						200			163.20		680.00
60	S-23	1230	1	1	1	60	1						200			163.20		680.00
61	S-25	1250	1	1	1	60	1						200			163.20		680.00
62	Shuttle - 1 lane to 2 lane	7100	0	0	0	60	1						100			163.20		680.00
63	Shuttle - 2 lane to 1 lane	7200	0	0	0	60	1						100			163.20		680.00
64	Telescopic Gate TG	7550	1	1	0	60	1						150			163.20		680.00
65	Turn Station TS	7570	1	1	0	60	1						200			163.20		680.00
66																163.20		680.00
67																163.20		680.00
68																163.20		680.00

FIG. 7A

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x 2 / SPL	1042	1	1	2	60	1									163.20		680.00
34	F4 x 3 / SPL	1043	1	1	3	60	1									163.20		680.00
35	F5	1050	1	1	1	60	1									163.20		680.00
36	F5 x 2 / SPL	1052	1	1	2	60	1									163.20		680.00
37	F5 x 3 / SPL	1053	1	1	3	60	1									163.20		680.00
38	Flip Station 180	7560	1	1	0	60	1									163.20		680.00
39	HS-50	1500	1	1	2	60	1									163.20		680.00
40	HS-50 x 2 / SPL	1502	1	1	4	60	1									163.20		680.00
41	HS-50 x 3 / SPL	1503	1	1	6	60	1									163.20		680.00
42	Last Lift	7500	0	0	0	60	1									163.20		680.00
43	Magazine Buffer MB100	7320	0	0	0	60	1									163.20		680.00
44	Magazine Buffer MB50	7310	0	0	0	60	1									163.20		680.00
45	Magazine Loader ML02	7600	1	1	0	60	1									163.20		680.00
46	Magazine Loader ML05	7610	1	1	0	60	1									163.20		680.00
47	Magazine Unloader MU02	7601	1	1	0	60	1									163.20		680.00
48	Magazine Unloader MU05	7611	1	1	0	60	1									163.20		680.00
49	Printer pro-flow	9003	1	0	1	60	1									163.20		680.00
50	Printer pro-flow temp control	9004	1	0	1	60	1									163.20		680.00
51	Printer squegee operation	9001	1	0	1	60	1									163.20		680.00
52	Printer squegee operation temp control	9002	1	0	1	60	1									163.20		680.00
53	RX 261	8001	1	1	1	60	1									163.20		680.00
54	RX 262	8002	1	1	1	60	1									163.20		680.00
55	RX 331	8003	1	1	1	60	1									163.20		680.00
56	RX 332	8004	1	1	1	60	1									163.20		680.00
57	RX 411	8005	1	1	1	60	1									163.20		680.00
58	RX 412	8006	1	1	1	60	1									163.20		680.00
59	S-20	1200	1	1	1	60	1									163.20		680.00
60	S-23	1230	1	1	1	60	1									163.20		680.00
61	S-25	1250	1	1	1	60	1									163.20		680.00
62	Shuttle - 1 lane to 2 lane	7100	0	0	0	60	1									163.20		680.00
63	Shuttle - 2 lane to 1 lane	7200	0	0	0	60	1									163.20		680.00
64	Telescopic Gate TG	7550	1	1	0	60	1									163.20		680.00
65	Turn Station TS	7570	1	1	0	60	1									163.20		680.00
66																163.20		680.00
67																163.20		680.00
68																163.20		680.00

FIG. 7B

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
69																163.20		680.00
70																163.20		680.00
71																163.20		680.00
72																163.20		680.00
73																163.20		680.00
74																163.20		680.00
75																163.20		680.00
76																163.20		680.00
77																163.20		680.00
78																163.20		680.00
79																163.20		680.00
80																163.20		680.00
81																163.20		680.00
82																163.20		680.00
83																163.20		680.00
84																163.20		680.00
85																163.20		680.00
86																163.20		680.00
87																163.20		680.00
88																163.20		680.00
89																163.20		680.00
90																163.20		680.00
91																163.20		680.00
92																163.20		680.00
93																163.20		680.00
94																163.20		680.00
95																163.20		680.00
96																163.20		680.00
97																163.20		680.00
98																163.20		680.00
99																163.20		680.00

FIG. 7C

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
1																
2	e(h/min)					grafic		grafic		witness module single lane	witness module dual lane	inbound routing				
3	thly	quarterly		yearly		detailed		high level								
4	MTTM	MTBM	MTTM	MTBM	MTTM	length offset		length offset								
5		4080.00		8160.00			0									
6		4080.00		8160.00			0									
7		4080.00		8160.00			0									
8		4080.00		8160.00			0									
9		4080.00		8160.00			0									
10		4080.00		8160.00			0									
11		4080.00		8160.00			0									
12		4080.00		8160.00			0									
13		4080.00		8160.00			0									
14		4080.00		8160.00			0									
15		4080.00		8160.00			0									
16		4080.00		8160.00			0									
17		4080.00		8160.00			0									
18		4080.00		8160.00			0									
19		4080.00		8160.00			0									
20		4080.00		8160.00			0									
21		4080.00		8160.00			0									
22		4080.00		8160.00			0									
23		4080.00		8160.00			0									
24		4080.00		8160.00			0									
25		4080.00		8160.00		200	0			BareBoard_Loader		Printermc	200			
26		4080.00		8160.00		150	0			Buffers		B1	100			
27		4080.00		8160.00		150	0			Conv2_1	Conv2_2	con5_2001	100			
28		4080.00		8160.00		150	0			Conv3_1	Conv3_2	con5_2001	100			
29		4080.00		8160.00		150	0			Conv4_1	Conv4_2	con5_2001	100			
30		4080.00		8160.00		150	0			Conv1_1	Conv1_2	con5_2001	100			
31		4080.00		8160.00		150	0			Conv5_1	Conv5_2	con5_2001	100			
32		4080.00		8160.00		200	0			S25 L1	S25	Conveyor001	200			

FIG. 7D

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
33		4080.00		8160.00		600	0			S25Cluster2_L1	S25Cluster2	Lift1	450			
34		4080.00		8160.00		900	0			S25Cluster3_L1	S25Cluster3	Lift1	875			
35		4080.00		8160.00		200	0			S25_L1	S25	Conveyor001	200			
36		4080.00		8160.00		600	0			S25Cluster2_L1	S25Cluster2	Lift1	450			
37		4080.00		8160.00		900	0			S25Cluster3_L1	S25Cluster3	Lift1	875			
38		4080.00		8160.00		200	0			Flip_Station		Printermc	200			
39		4080.00		8160.00		350	0			HS50_L1	HS50	Conveyor001	400			
40		4080.00		8160.00		900	0			HS50Cluster2_L	HS50Cluster2L	Lift1	850			
41		4080.00		8160.00		1350	0			HS50Cluster3_L	HS50Cluster3L	Lift1	1250			
42		4080.00		8160.00		100	0			Lastlift		Lift4	700			
43		4080.00		8160.00		150	0			Buffer_Magazine100		B1	100			
44		4080.00		8160.00		150	0			Buffer_Magazine50		B1	100			
45		4080.00		8160.00		200	0			Magazine_Loader2		Printermc	200			
46		4080.00		8160.00		200	0			Magazine_Loader5		Printermc	200			
47		4080.00		8160.00		200	0			Magazine_Unloader2		Printermc	200			
48		4080.00		8160.00		200	0			Magazine_Unloader5		Printermc	200			
49		4080.00		8160.00		200	0			Printer		Printermc	200			
50		4080.00		8160.00		200	0			Printer		Printermc	200			
51		4080.00		8160.00		200	0			Printer		Printermc	200			
52		4080.00		8160.00		200	0			Printer		Printermc	200			
53		4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001	700			
54		4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001	700			
55		4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001	700			
56		4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001	700			
57		4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001	700			
58		4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001	700			
59		4080.00		8160.00		200	0			S25_L1	S25	Conveyor001	200			
60		4080.00		8160.00		200	0			S25_L1	S25	Conveyor001	200			
61		4080.00		8160.00		200	0			S25_L1	S25	Conveyor001	200			
62		4080.00		8160.00		100	0			Shuttle1_2		Shuttle	100			
63		4080.00		8160.00		100	0			Shuttle2_1		Shuttle	100			
64		4080.00		8160.00		150	0			ConvTG		conv5_2001	150			
65		4080.00		8160.00		200	0			Turn_Station		Printermc	200			
66		4080.00		8160.00												
67		4080.00		8160.00												
68		4080.00		8160.00												

FIG. 7E

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
69		4080.00		8160.00												
70		4080.00		8160.00												
71		4080.00		8160.00												
72		4080.00		8160.00												
73		4080.00		8160.00												
74		4080.00		8160.00												
75		4080.00		8160.00												
76		4080.00		8160.00												
77		4080.00		8160.00												
78		4080.00		8160.00												
79		4080.00		8160.00												
80		4080.00		8160.00												
81		4080.00		8160.00												
82		4080.00		8160.00												
83		4080.00		8160.00												
84		4080.00		8160.00												
85		4080.00		8160.00												
86		4080.00		8160.00												
87		4080.00		8160.00												
88		4080.00		8160.00												
89		4080.00		8160.00												
90		4080.00		8160.00												
91		4080.00		8160.00												
92		4080.00		8160.00												
93		4080.00		8160.00												
94		4080.00		8160.00												
95		4080.00		8160.00												
96		4080.00		8160.00												
97		4080.00		8160.00												
98		4080.00		8160.00												
99		4080.00		8160.00												

FIG. 7F

	A	B	C	D	E	F	G	H	I	J	K	L	M
1					Main								
2		Boards	board #		1	2	3	4	5	6	7	8	9
3			board name										
4			second side +										
5			components per panel										
6			up to 18.7 x 18.7										
7			up to 32 x 32										
8			up to 55 x 55										
9			boards per panel										
10			components per board										
11			board for simulation										
12		#	name	pc									
13	1	7300	Buffer	999	999	999	999	999	999	999	999	999	999
14	2	7511	Conveyor 1060	999	999	999	999	999	999	999	999	999	999

FIG. 8

	N	O	P	Q	R	S	T	U	V	W	X	Y
1												
2	10	11	12	13	14	15	16	17	18	19	20	21
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13	999	999	999	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999	999	999	999

FIG. 8A

	Z	AA	AB	AC	AD	AE	AF	AG	AH
1									
2	22	23	24	25	26	27	28	29	30
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999

FIG. 8B

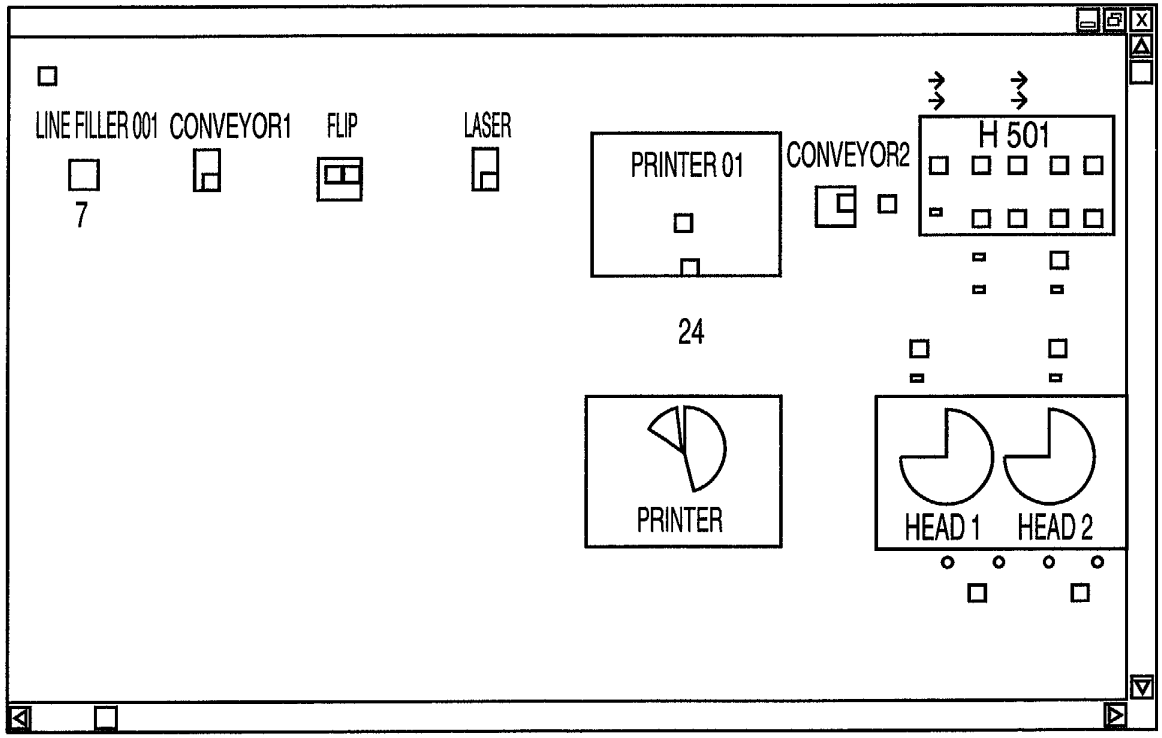


FIG. 9

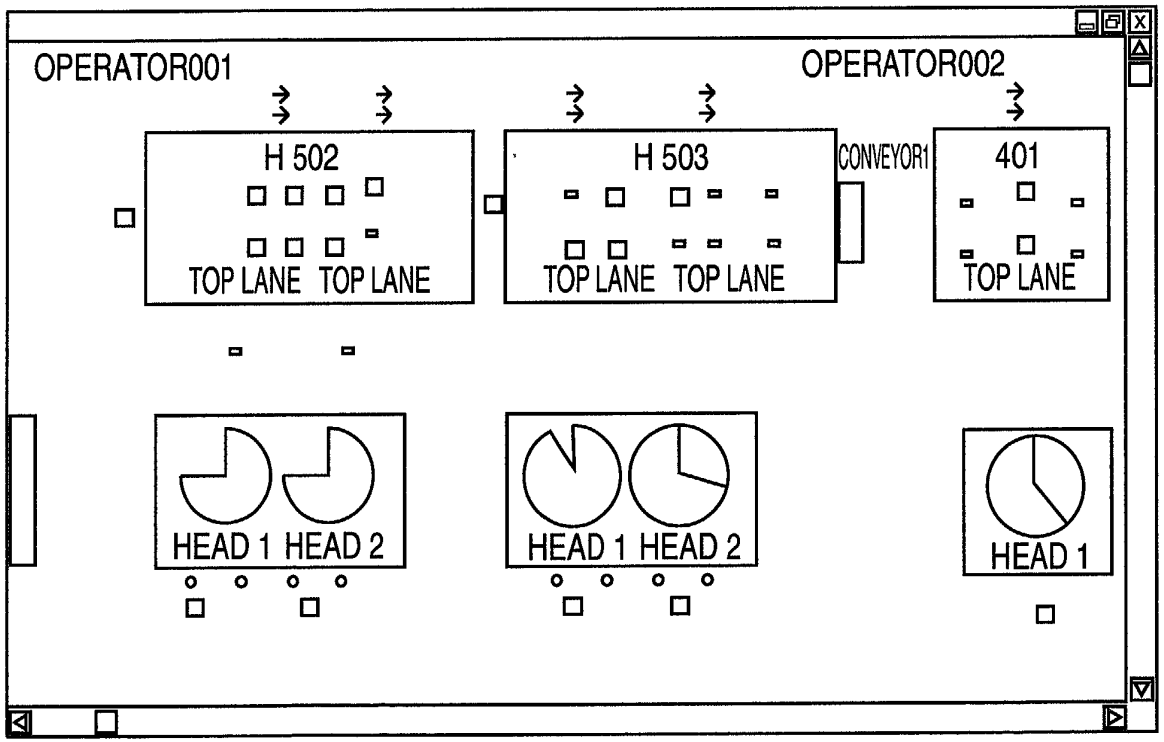


FIG. 9A

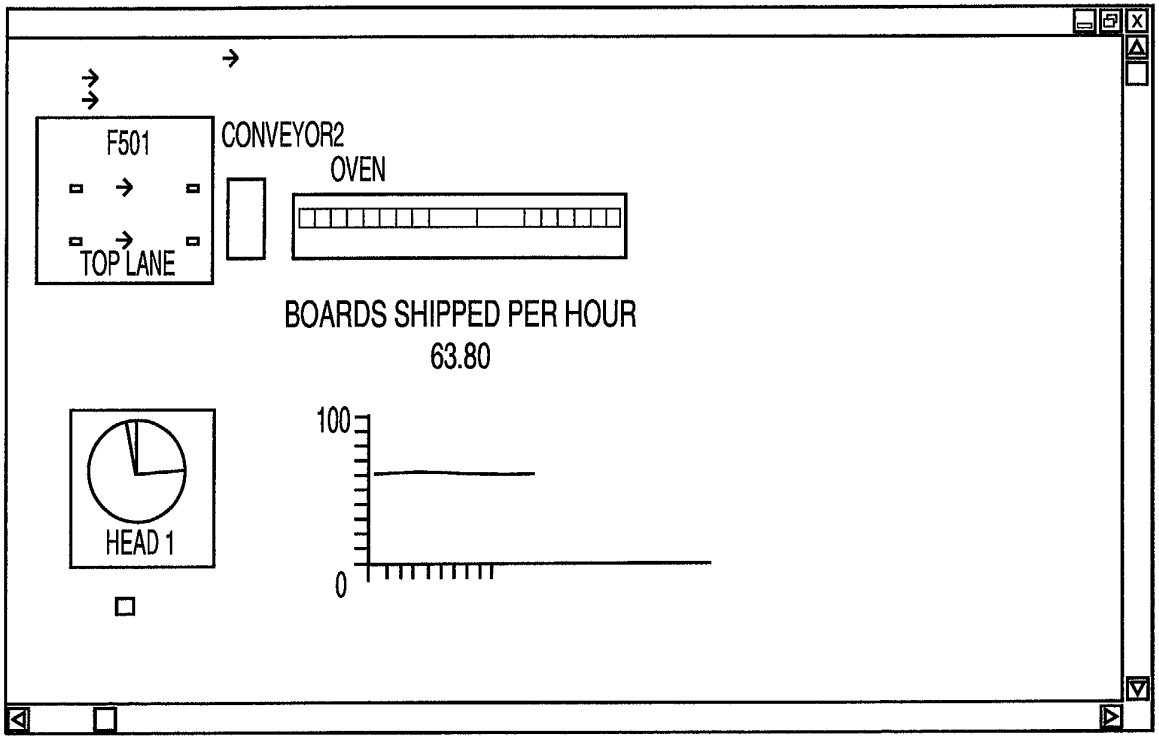

F501
CONVEYOR2
OVEN
TOP LANE
BOARDS SHIPPED PER HOUR
63.80
HEAD 1
100
0

FIG. 9B

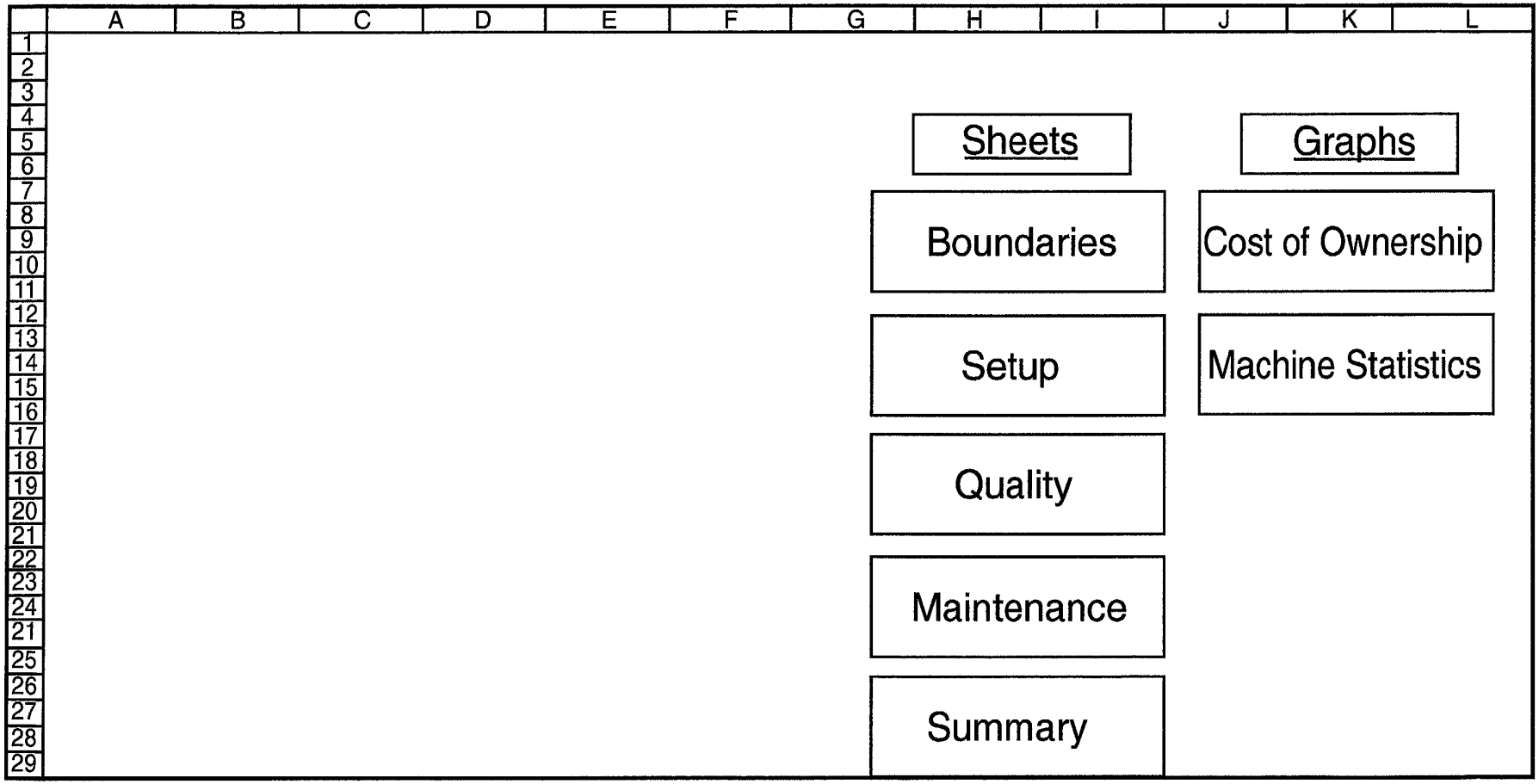
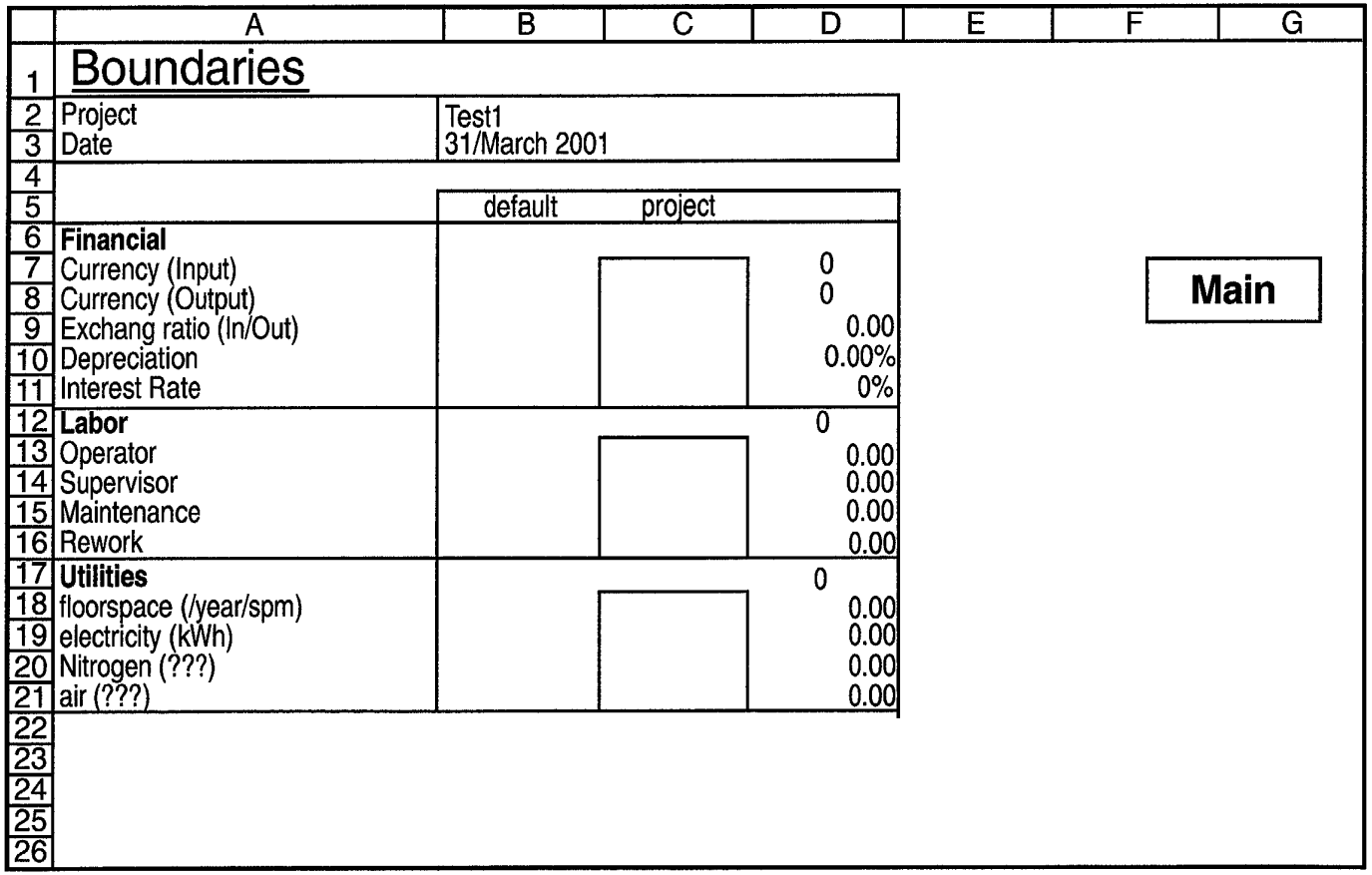


FIG. 10



	A	B	C	D	E	F	G
1	**Boundaries**						
2	Project	Test1					
3	Date	31/March 2001					
4							
5		default	project				
6	**Financial**						
7	Currency (Input)			0			
8	Currency (Output)			0			
9	Exchang ratio (In/Out)			0.00			
10	Depreciation			0.00%			
11	Interest Rate			0%			
12	**Labor**			0			
13	Operator			0.00			
14	Supervisor			0.00			
15	Maintenance			0.00			
16	Rework			0.00			
17	**Utilities**			0			
18	floorspace (/year/spm)			0.00			
19	electricity (kWh)			0.00			
20	Nitrogen (???)			0.00			
21	air (???)			0.00			
22							
23							
24							
25							
26							

FIG. 11

	A	B	C	D	E	F	G
1	**Setup**						
2							
3	**internal setup**						
4	Operator labor per hour	0.00		0			
5	setup changes every x h		hours				
6	# of setup changes per week						
7	setup changes per year	0					
8	time per setup		min.				
9	setup time per year	0.00	hours				
10	internal setup costs	0		0			
11							
12	**external setup**						
13	external setup labour per hour			0			
14	external setup		minutes per setup				
15	external setup per year	0.00	hours				
16	Investment for external setup			0			
17							
18							
19	external setup costs per year	0		0			
20							
21	setup costs	0		0			

Main

FIG. 12

	A	B	C	D	E	F	G	H
1	Quality							
2	material costs per board		0					
3	DPM							
4	components per board	500						
5	first pass yield	100%						
6	rework costs per board to rework		0					
7	scrap costs per board to rework							
8	rework costs per year	#DIV/0!	0					
9	scrap costs per year	#DIV/0!	0					
10								
11	**quality costs per year**	**#DIV/0!**	0					
12								
13								
14								
15								
16								
17								
18								

Main

FIG. 13

	A	B	C	D	E	F	G	H	I
1	**Maintenance**		minutes	# of workers	who does maint.	downtime factor	line operator (h)	maint. team (h)	downtime (h)
2	line workers			0					
3	maintenance per shift (min)				1	100%	0.00	0.00	#DIV/0!
4	maintenance weekly (min)				1	100%	0.00	0.00	#DIV/0!
5	maintenance monthly add. (min)				2	100%	#DIV/0!	#DIV/0!	#DIV/0!
6	maintenance quarterly add (min)				3	100%	0.00	0.00	#DIV/0!
7	maintenance every x h add (min)	10,000			3	100%	0.00	0.00	#DIV/0!
8	maintenance time calculated (h)						#DIV/0!	#DIV/0!	#DIV/0!
9	labor costs						#DIV/0!	#DIV/0!	0
10									
11	**maintenance costs per year**							#DIV/0!	**0.000000 €**
12									
13									
14									
15									
16									
17									
18									
19									
20						**Main**			
21									
22									

FIG. 14

	A	B	C	D	E	F	F	H	I	J	K
1	**Cost of Ownership**			Cost per year		Cost per board		%		Capacity	
2	**Investment**									hours available per year	0.00
3	investment			0	0					internal setup	#DIV/0!
4	spareparts		%	0	0					maintenance	#DIV/0!
5	service		%	0	0					quality	
6				0	0	#DIV/0!	0	#####		technical availability	
7										hours total	#DIV/0!
8	**Labor**										
9	Operations			#DIV/0!	0					boards per hour	83.56
10	Supervisor			0	0					boards per shift	#DIV/0!
11				#DIV/0!	0	#DIV/0!	0	#####		boards per week	#DIV/0!
12										boards per year	#DIV/0!
13	**Misc.**										
14	Setup			0	0						
15	Maintenance			#DIV/0!	0						
16				#DIV/0!	0	#DIV/0!	0	#####			
17											
18	**Utilities**										
19	Floorspace		sqm	0	0						
20	Electricity		kw	#DIV/0!	0						
21	Nitrogen		cbm/h	#DIV/0!	0						
22	Air		Nl/min	#DIV/0!	0						
23				#DIV/0!	0	#DIV/0!	0	#####			
24											
25	**Quality**										
26	rework costs per year			#DIV/0!	0						
27	scrap costs per year			#DIV/0!	0						
28				#DIV/0!	0	#DIV/0!	0	#####			
29											
30											
31	Costs per year			#DIV/0!	0	#DIV/0!	0				

Main

FIG. 15

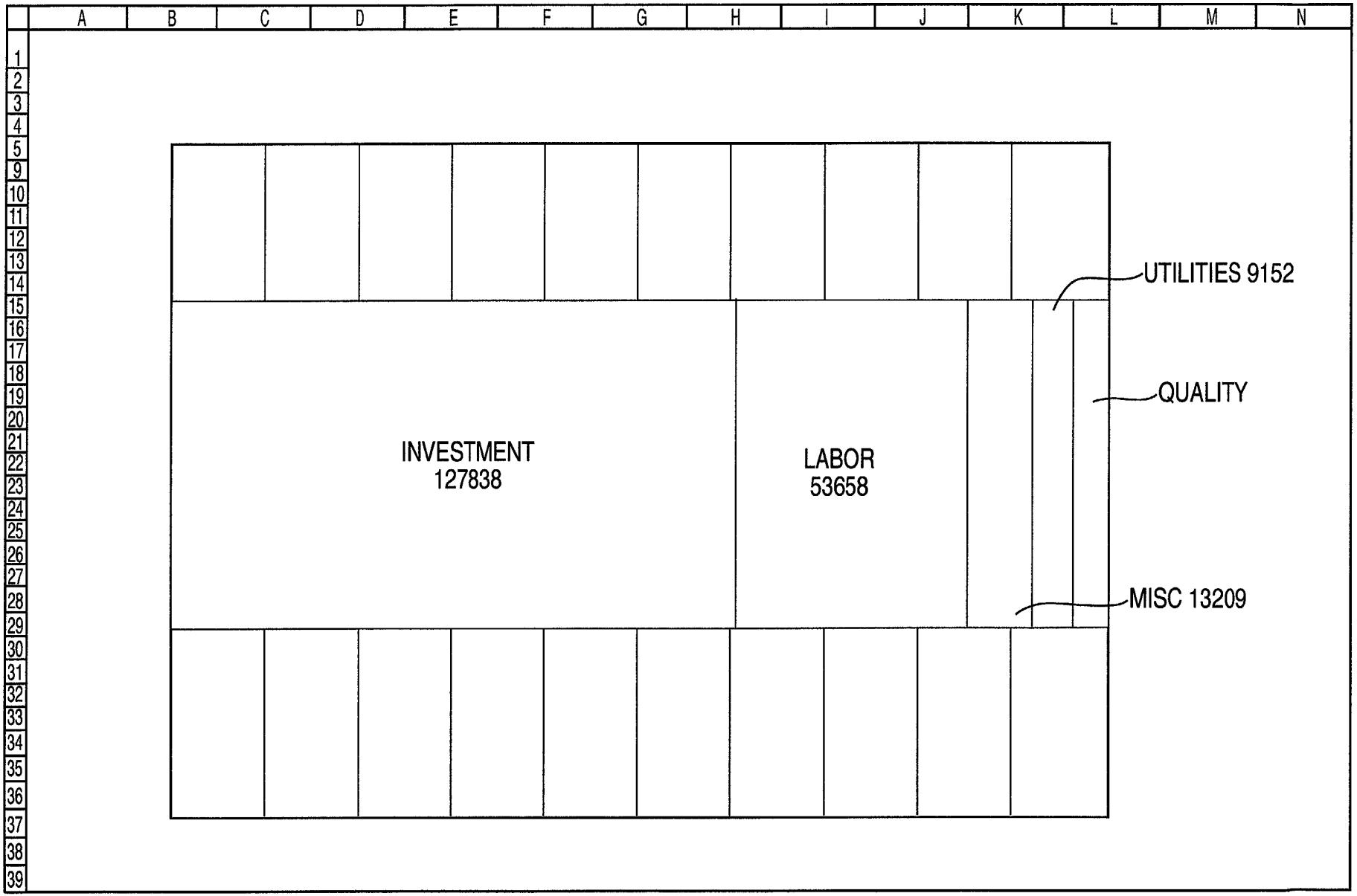

A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
UTILITIES 9152
QUALITY
INVESTMENT
127838
LABOR
53658
MISC 13209

FIG. 16

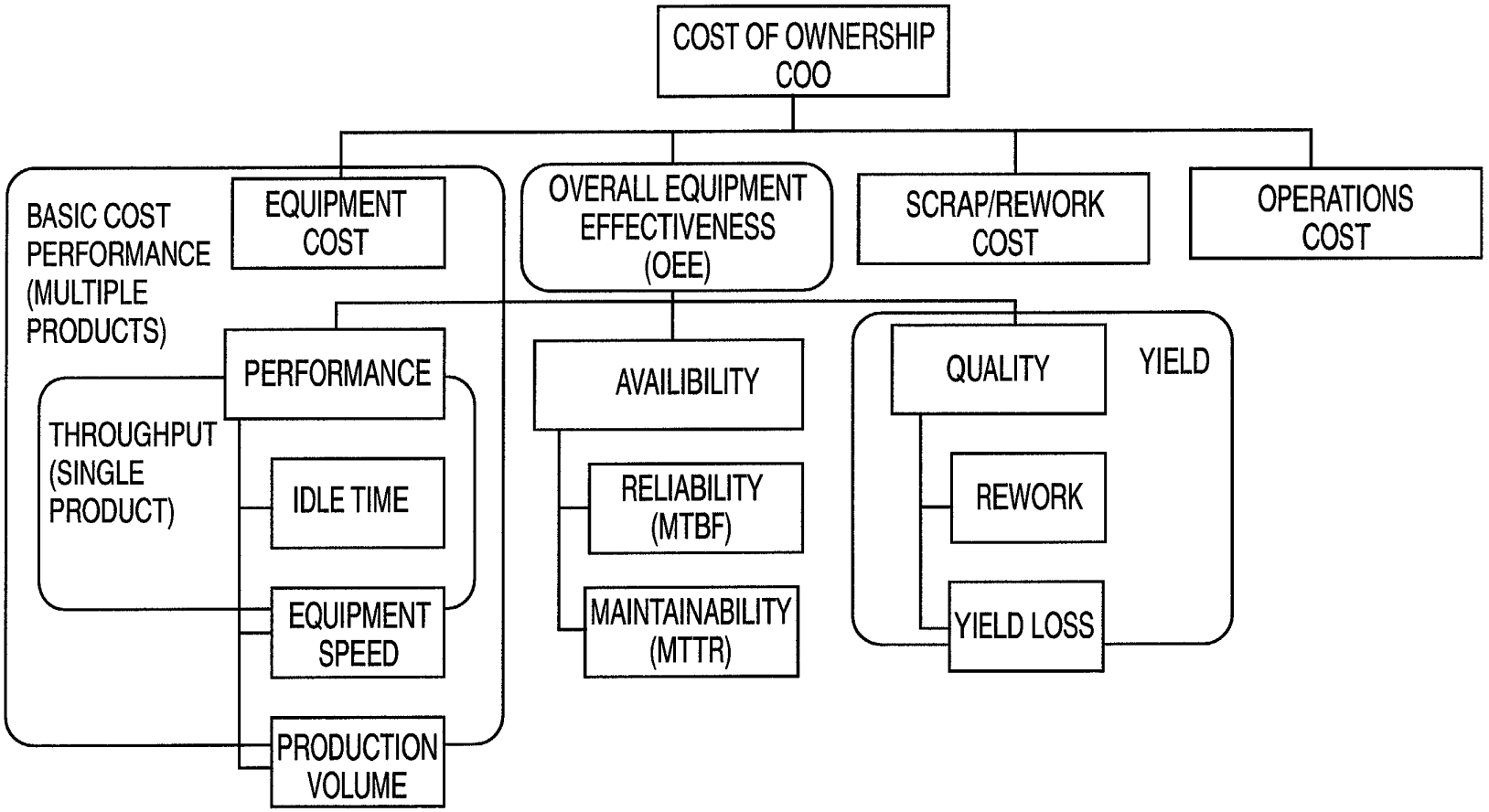


FIG. 16A

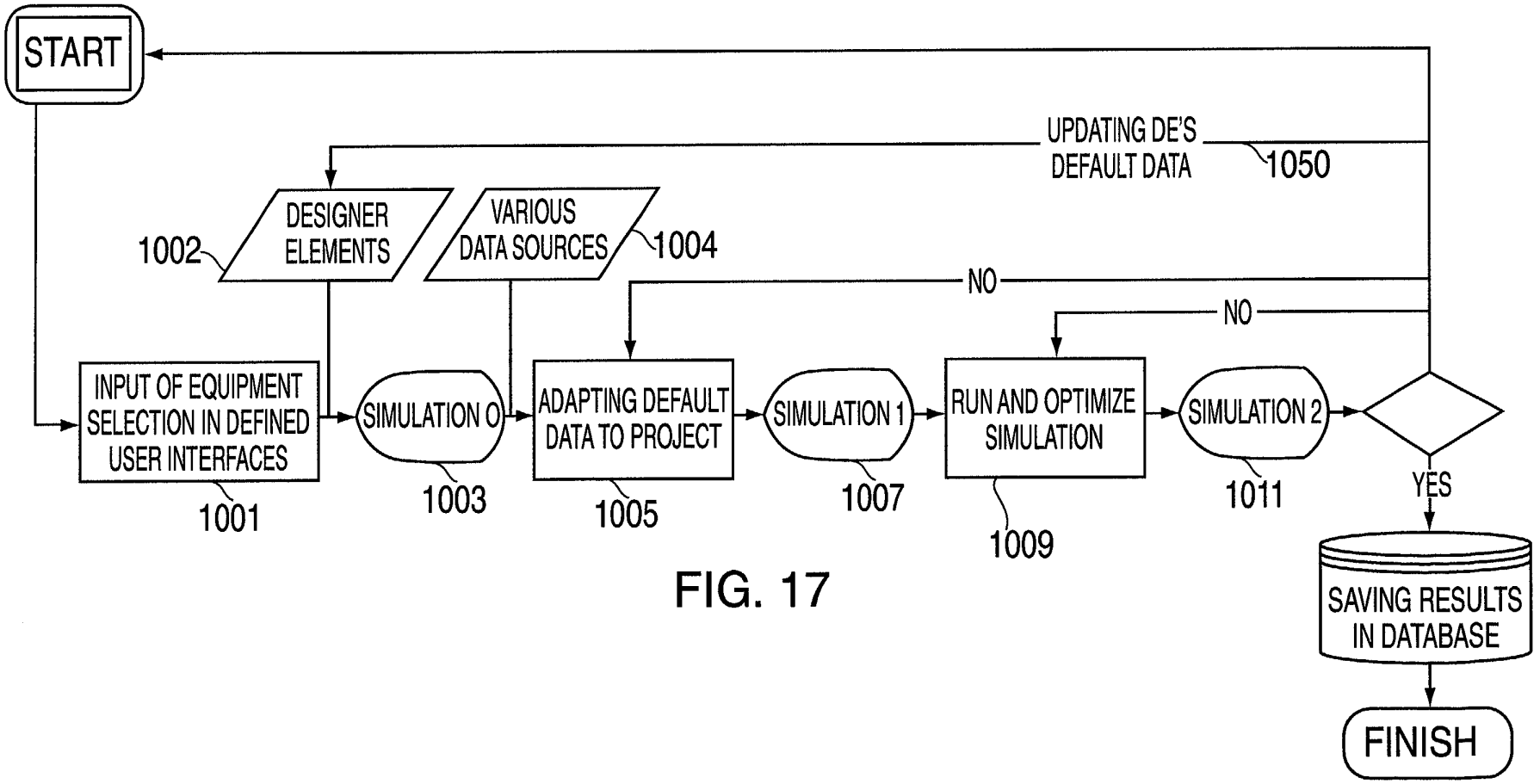


FIG. 17

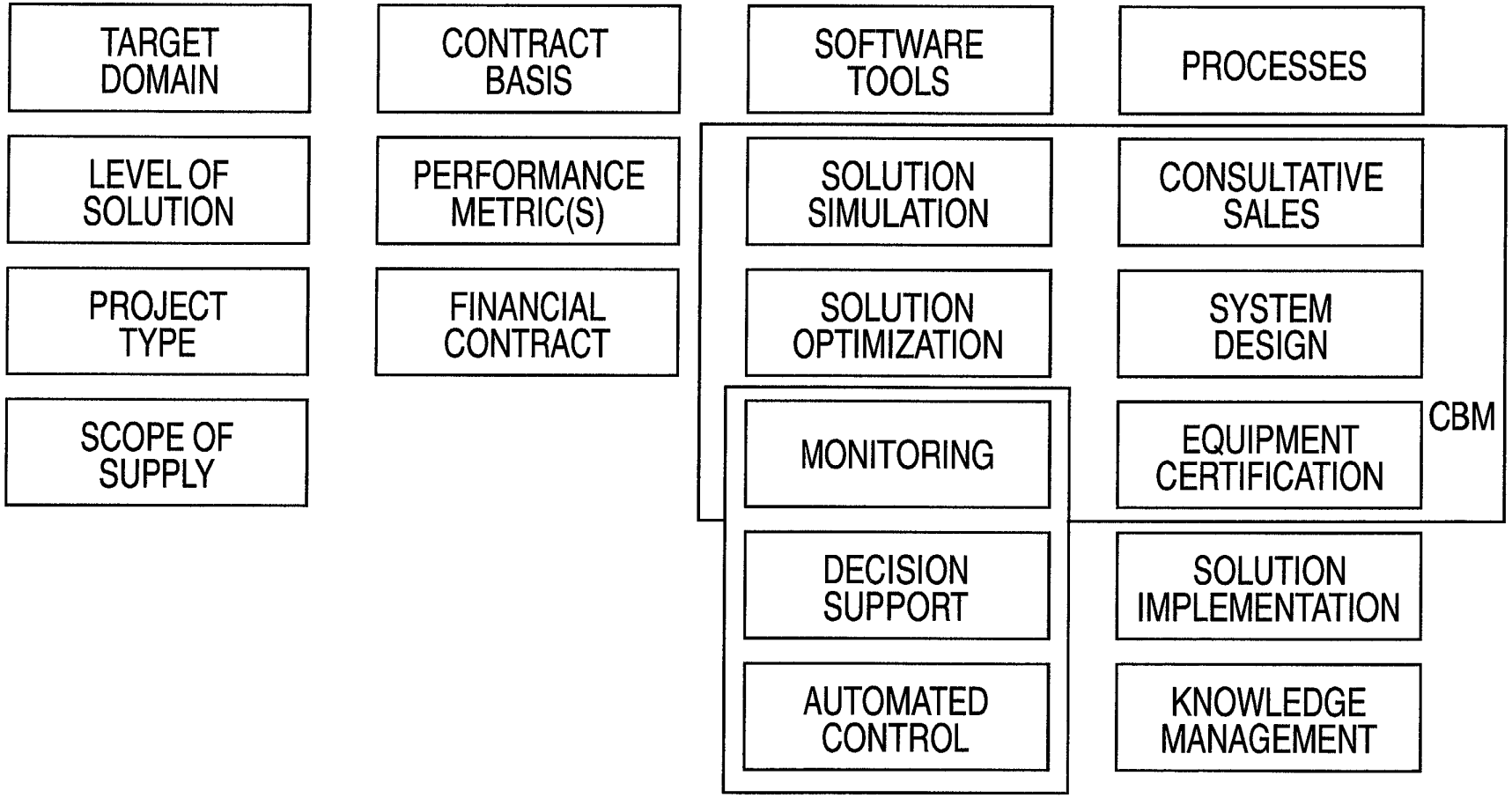


FIG. 18

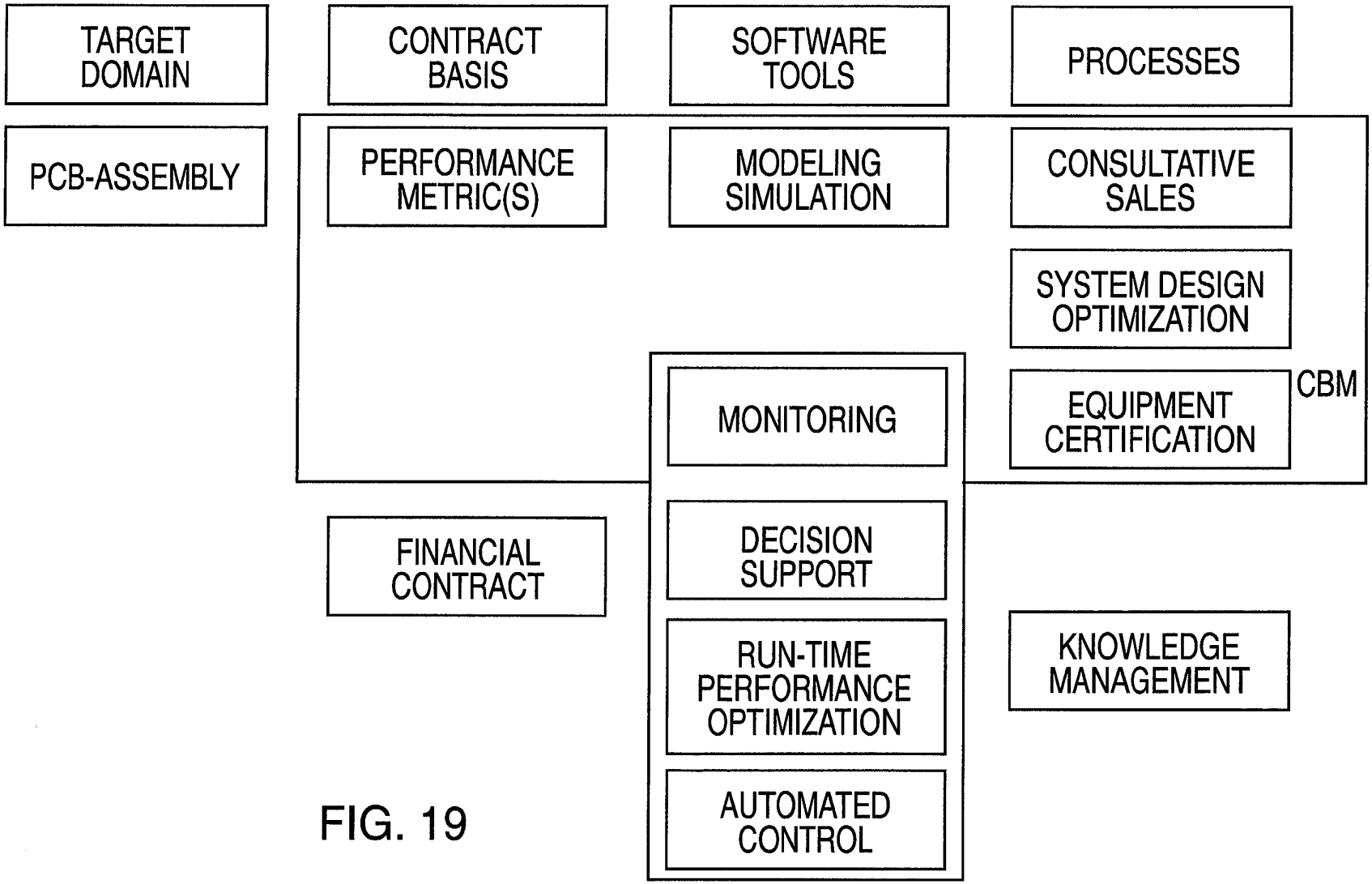


FIG. 19

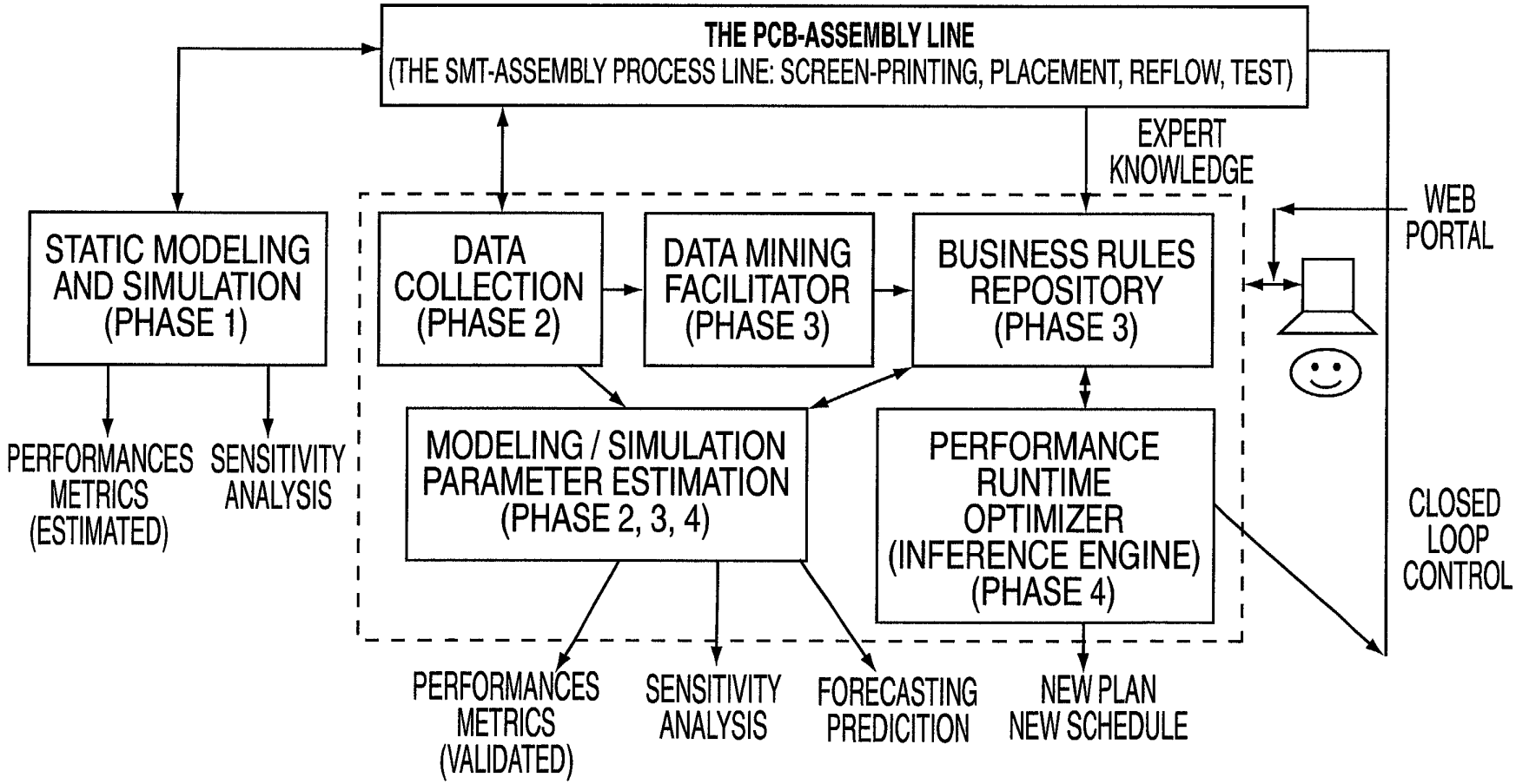


FIG. 20

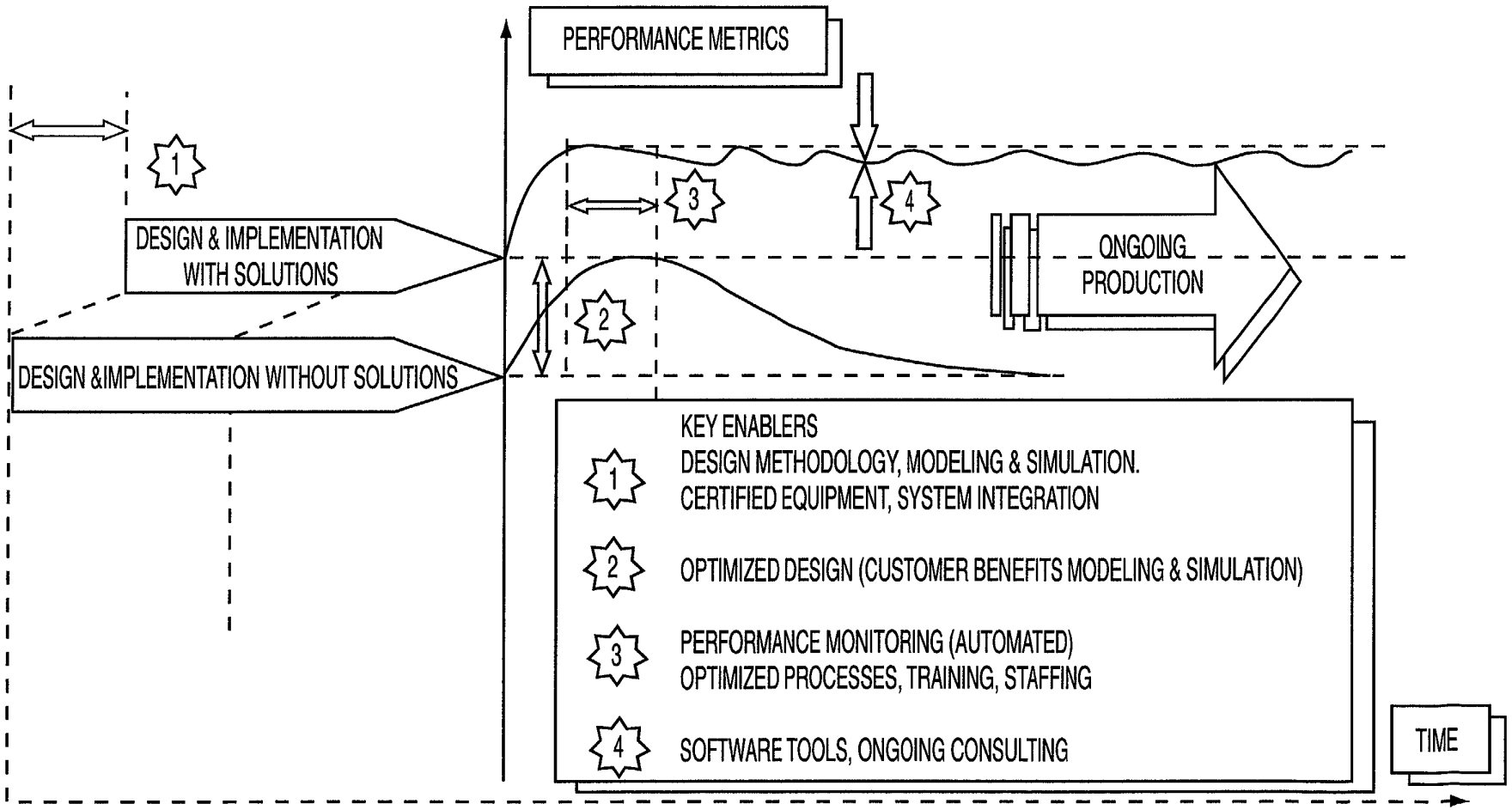


FIG. 21

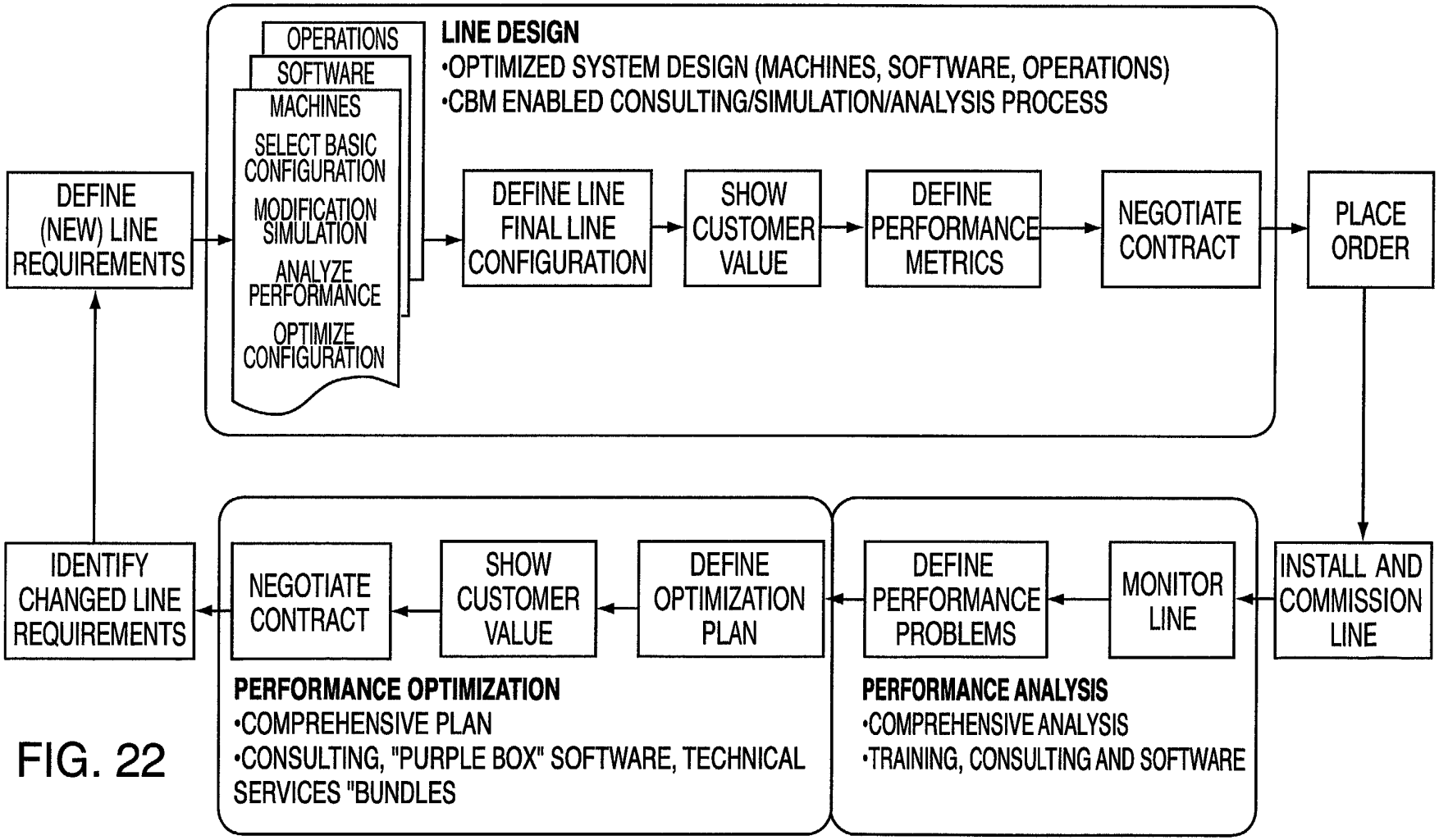


FIG. 22

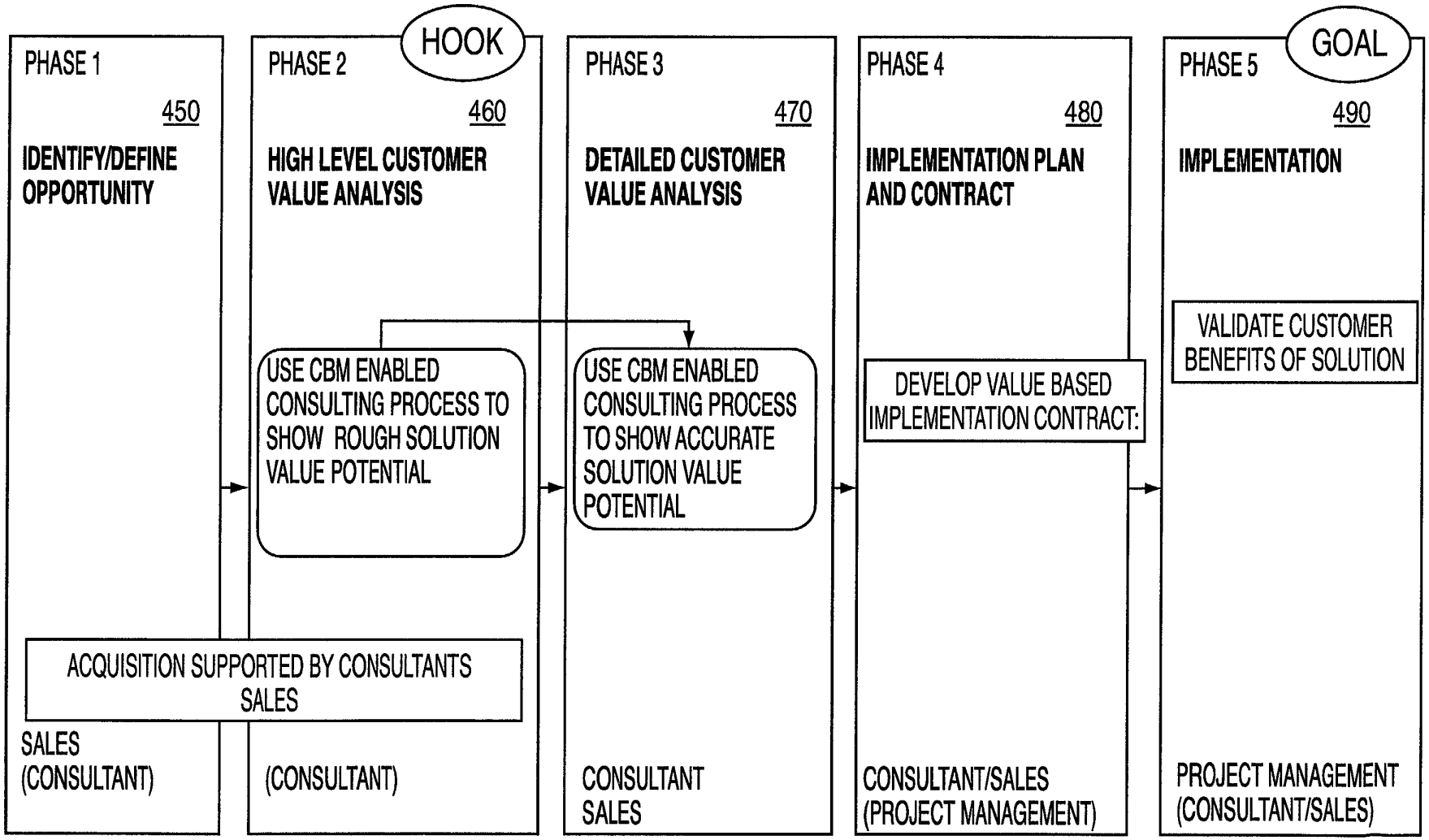

PHASE 1
450
IDENTIFY/DEFINE OPPORTUNITY
SALES (CONSULTANT)
PHASE 2
HOOK
460
HIGH LEVEL CUSTOMER VALUE ANALYSIS
USE CBM ENABLED CONSULTING PROCESS TO SHOW ROUGH SOLUTION VALUE POTENTIAL
ACQUISITION SUPPORTED BY CONSULTANTS SALES
(CONSULTANT)
PHASE 3
470
DETAILED CUSTOMER VALUE ANALYSIS
USE CBM ENABLED CONSULTING PROCESS TO SHOW ACCURATE SOLUTION VALUE POTENTIAL
CONSULTANT SALES
PHASE 4
480
IMPLEMENTATION PLAN AND CONTRACT
DEVELOP VALUE BASED IMPLEMENTATION CONTRACT:
CONSULTANT/SALES (PROJECT MANAGEMENT)
PHASE 5
GOAL
490
IMPLEMENTATION
VALIDATE CUSTOMER BENEFITS OF SOLUTION
PROJECT MANAGEMENT (CONSULTANT/SALES)

FIG. 23

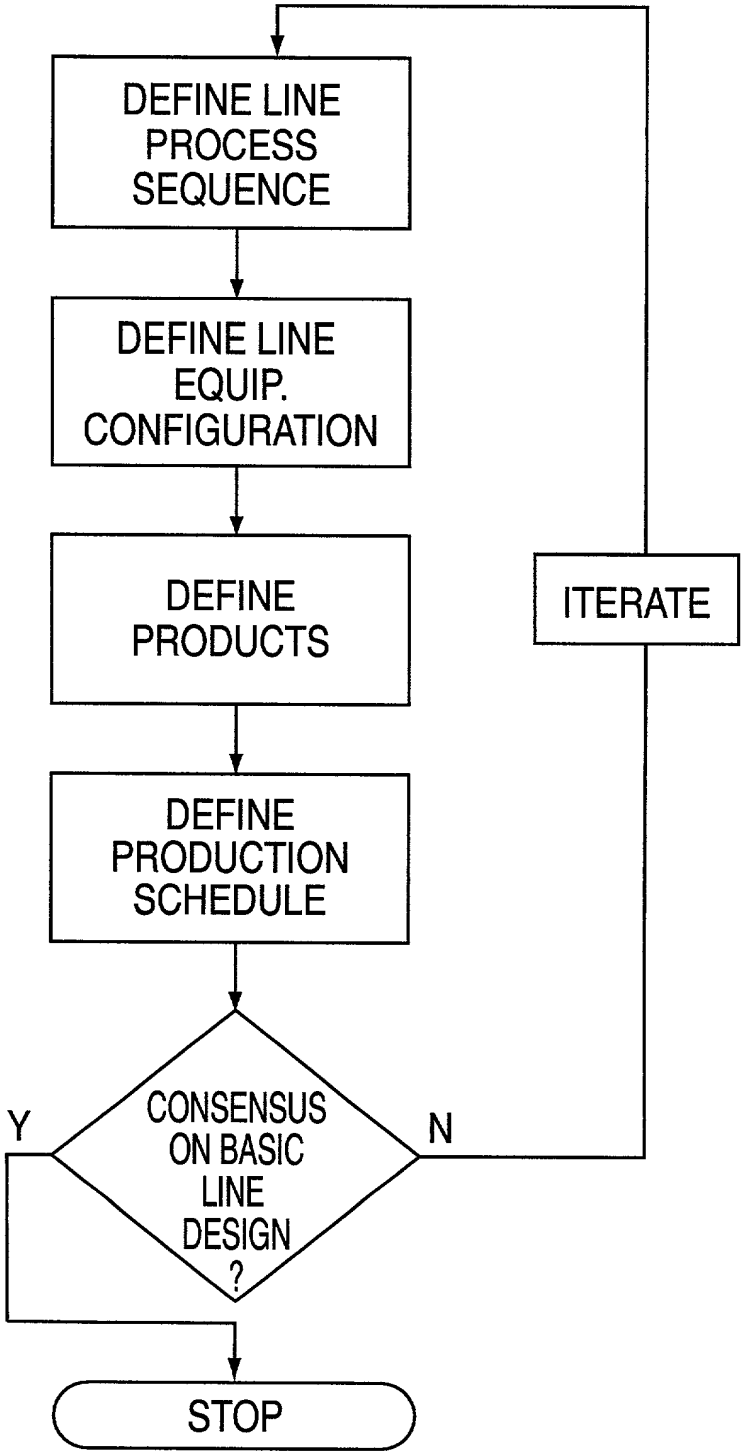

DEFINE LINE PROCESS SEQUENCE
DEFINE LINE EQUIP. CONFIGURATION
DEFINE PRODUCTS
DEFINE PRODUCTION SCHEDULE
CONSENSUS ON BASIC LINE DESIGN ?
Y
N
ITERATE
STOP

FIG. 24

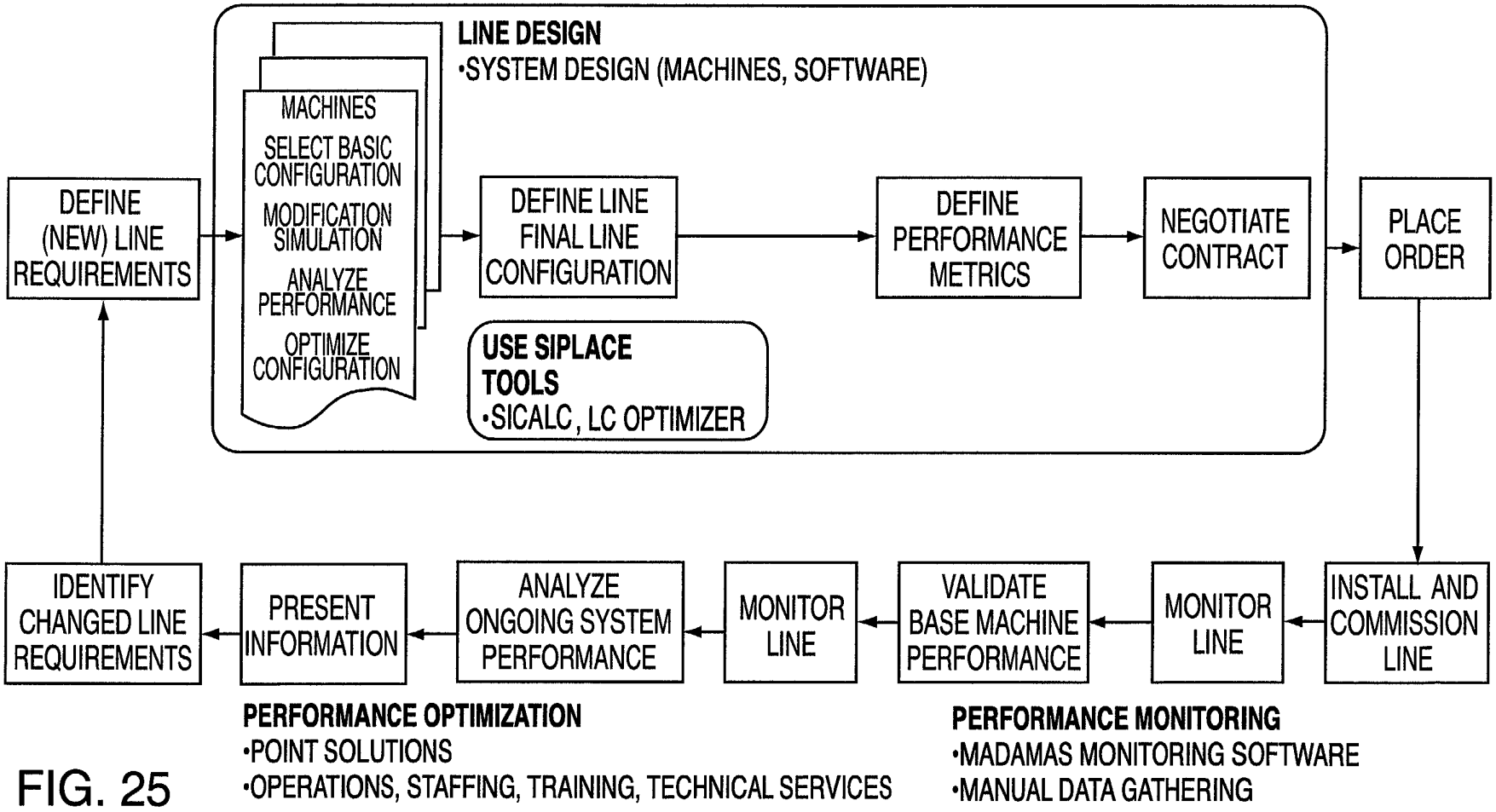


FIG. 25

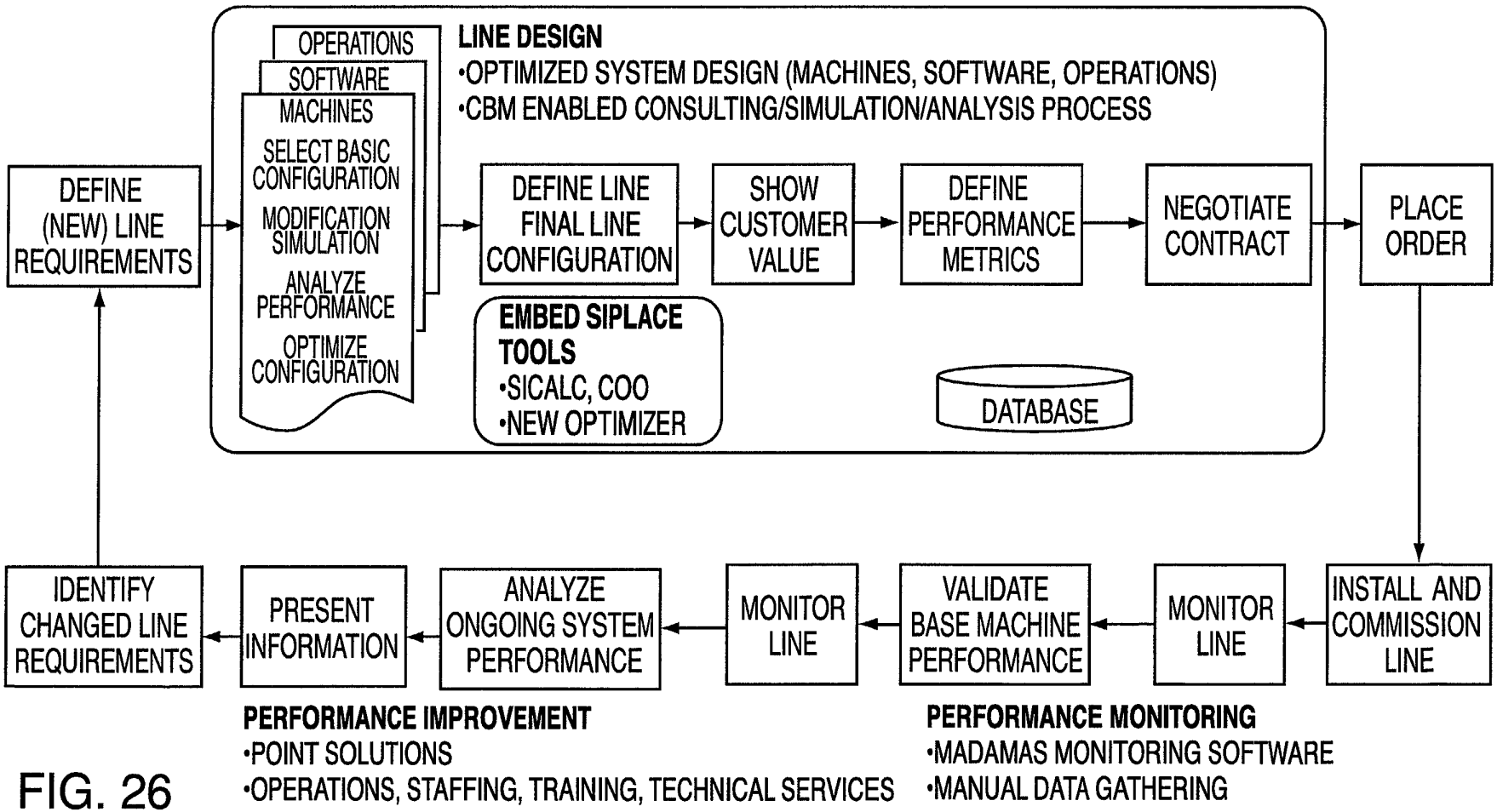


FIG. 26

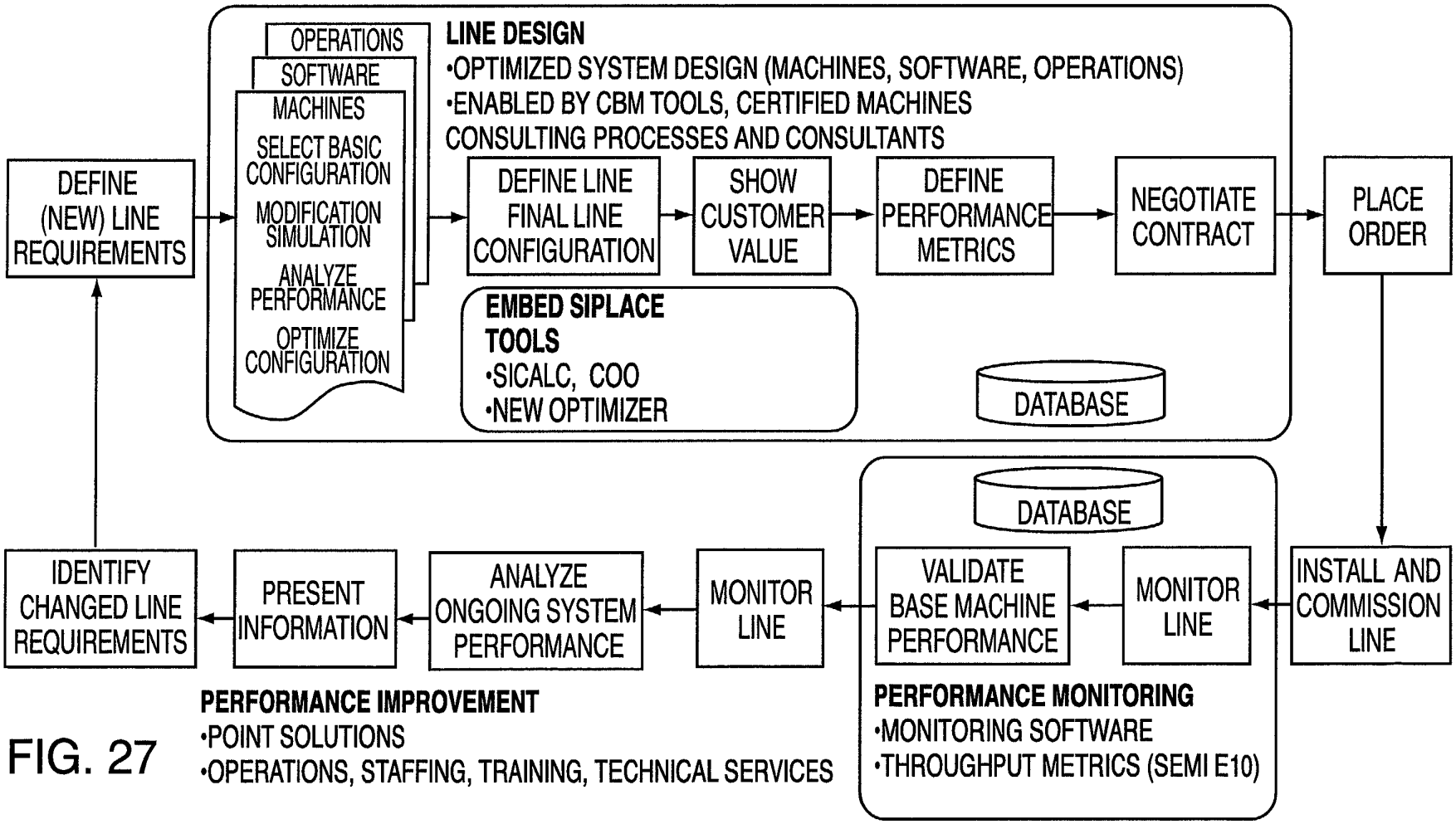


FIG. 27

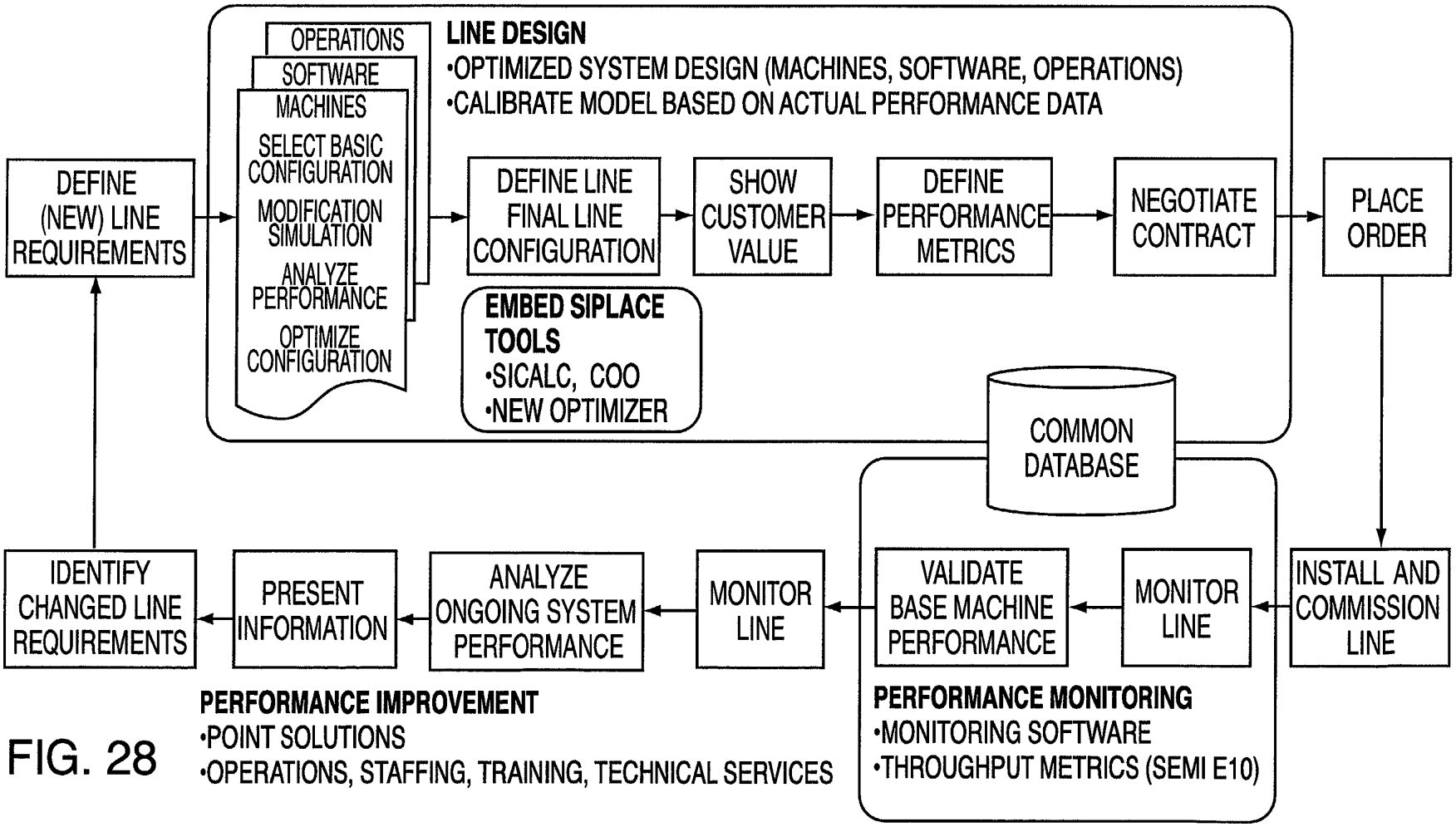


FIG. 28

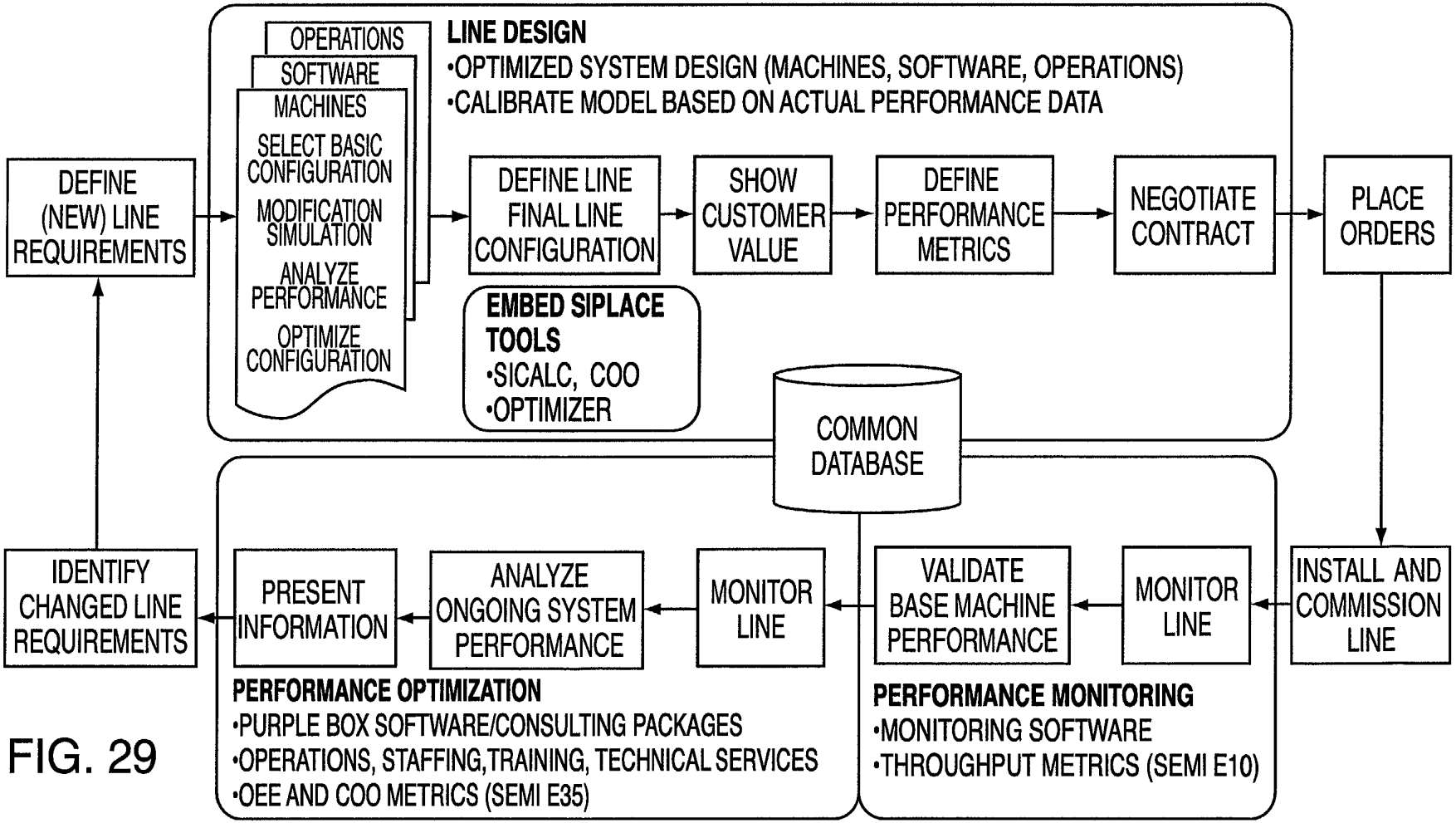


FIG. 29

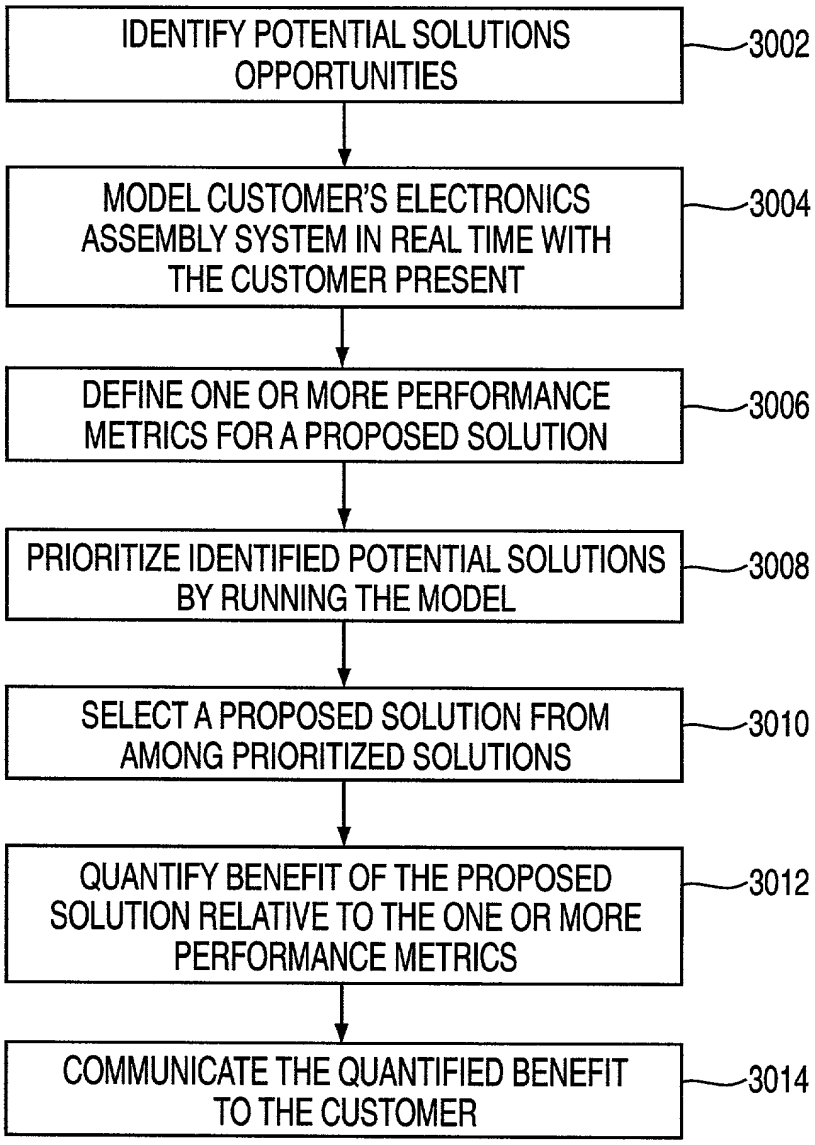


FIG. 30

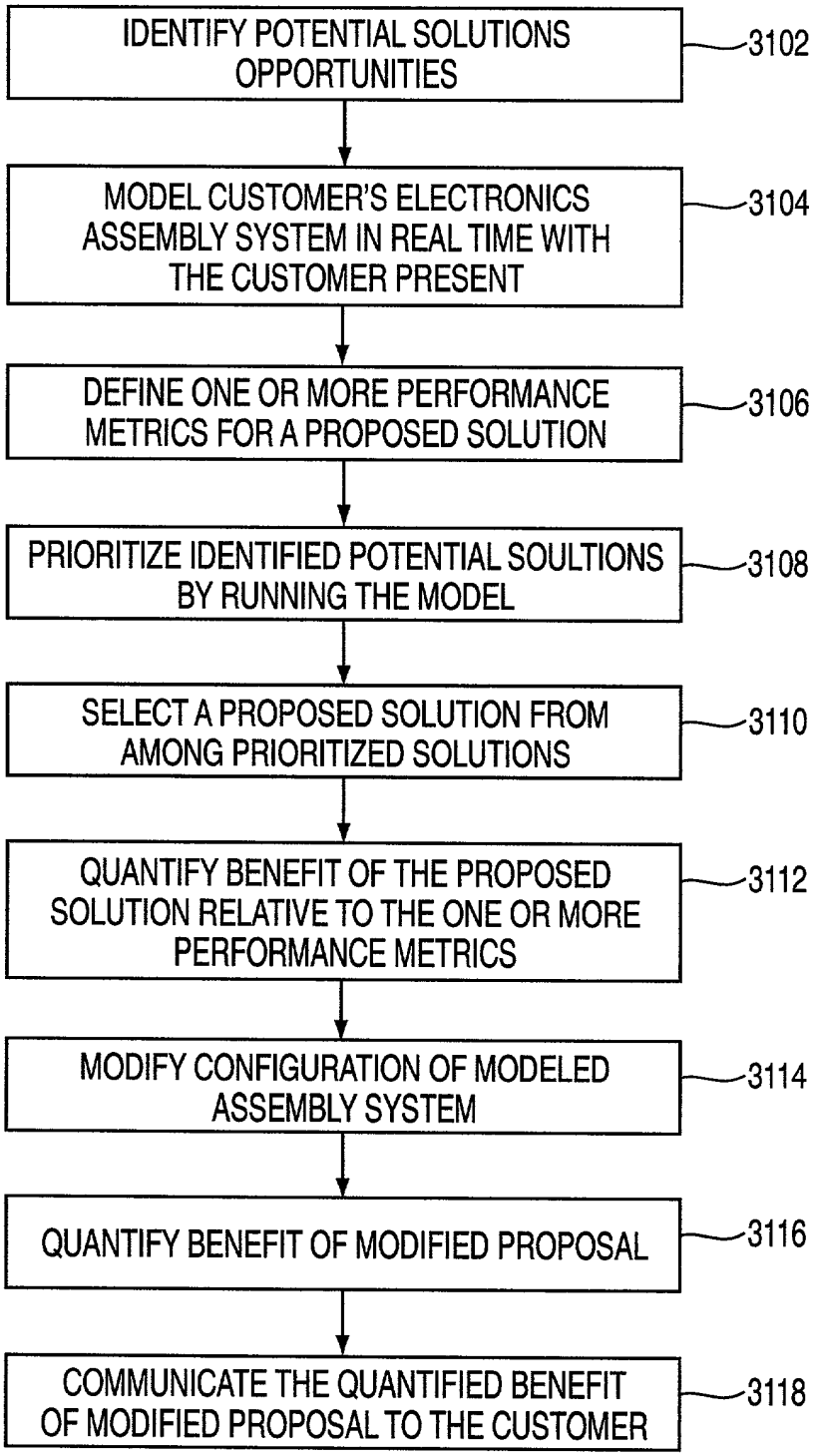

IDENTIFY POTENTIAL SOLUTIONS OPPORTUNITIES
3102
MODEL CUSTOMER'S ELECTRONICS ASSEMBLY SYSTEM IN REAL TIME WITH THE CUSTOMER PRESENT
3104
DEFINE ONE OR MORE PERFORMANCE METRICS FOR A PROPOSED SOLUTION
3106
PRIORITIZE IDENTIFIED POTENTIAL SOULTIONS BY RUNNING THE MODEL
3108
SELECT A PROPOSED SOLUTION FROM AMONG PRIORITIZED SOLUTIONS
3110
QUANTIFY BENEFIT OF THE PROPOSED SOLUTION RELATIVE TO THE ONE OR MORE PERFORMANCE METRICS
3112
MODIFY CONFIGURATION OF MODELED ASSEMBLY SYSTEM
3114
QUANTIFY BENEFIT OF MODIFIED PROPOSAL
3116
COMMUNICATE THE QUANTIFIED BENEFIT OF MODIFIED PROPOSAL TO THE CUSTOMER
3118

FIG. 31

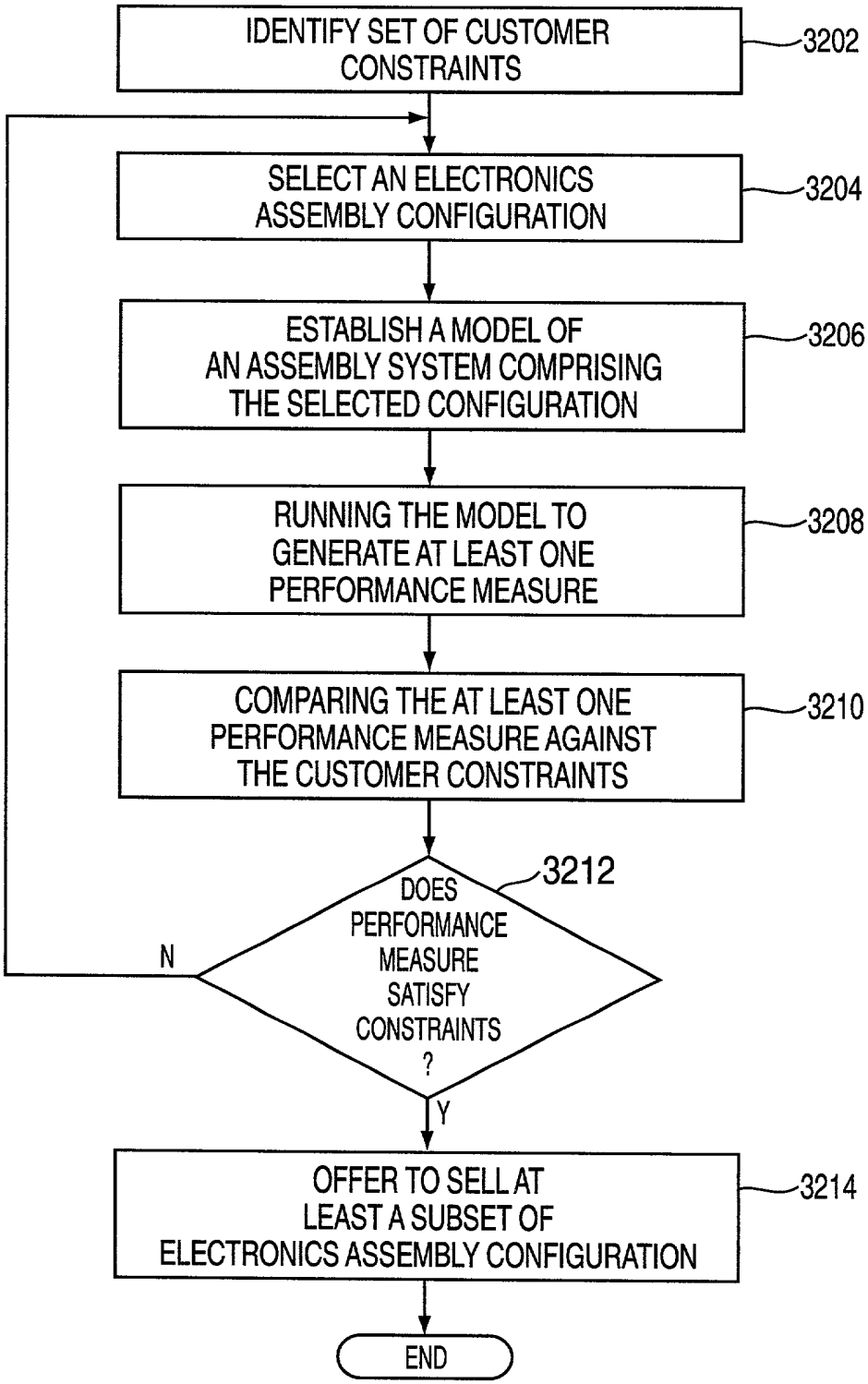

IDENTIFY SET OF CUSTOMER CONSTRAINTS
3202
SELECT AN ELECTRONICS ASSEMBLY CONFIGURATION
3204
ESTABLISH A MODEL OF AN ASSEMBLY SYSTEM COMPRISING THE SELECTED CONFIGURATION
3206
RUNNING THE MODEL TO GENERATE AT LEAST ONE PERFORMANCE MEASURE
3208
COMPARING THE AT LEAST ONE PERFORMANCE MEASURE AGAINST THE CUSTOMER CONSTRAINTS
3210
DOES PERFORMANCE MEASURE SATISFY CONSTRAINTS ?
3212
N
Y
OFFER TO SELL AT LEAST A SUBSET OF ELECTRONICS ASSEMBLY CONFIGURATION
3214
END

FIG. 32

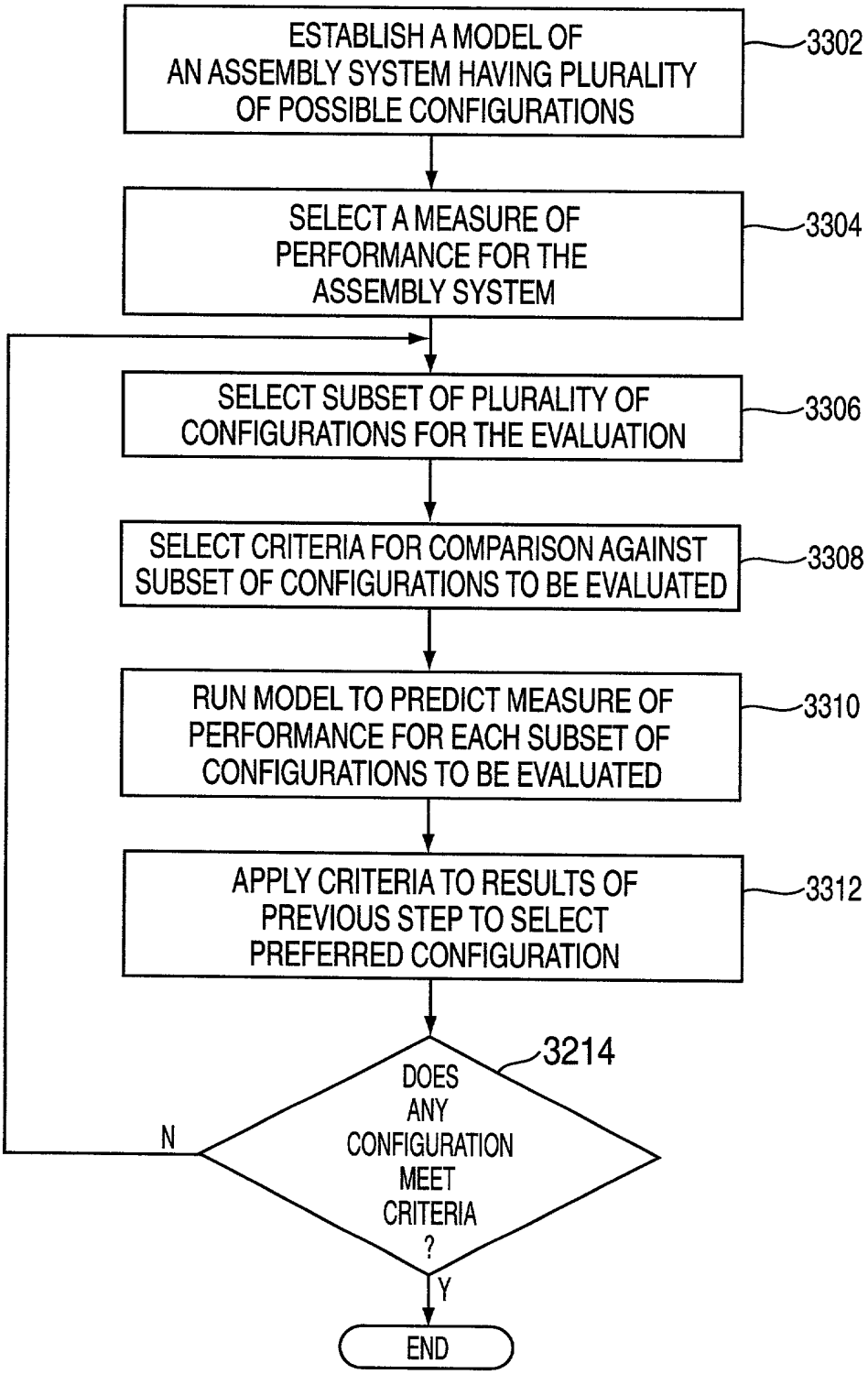

ESTABLISH A MODEL OF AN ASSEMBLY SYSTEM HAVING PLURALITY OF POSSIBLE CONFIGURATIONS
3302
SELECT A MEASURE OF PERFORMANCE FOR THE ASSEMBLY SYSTEM
3304
SELECT SUBSET OF PLURALITY OF CONFIGURATIONS FOR THE EVALUATION
3306
SELECT CRITERIA FOR COMPARISON AGAINST SUBSET OF CONFIGURATIONS TO BE EVALUATED
3308
RUN MODEL TO PREDICT MEASURE OF PERFORMANCE FOR EACH SUBSET OF CONFIGURATIONS TO BE EVALUATED
3310
APPLY CRITERIA TO RESULTS OF PREVIOUS STEP TO SELECT PREFERRED CONFIGURATION
3312
3214
DOES ANY CONFIGURATION MEET CRITERIA ?
N
Y
END

FIG. 33

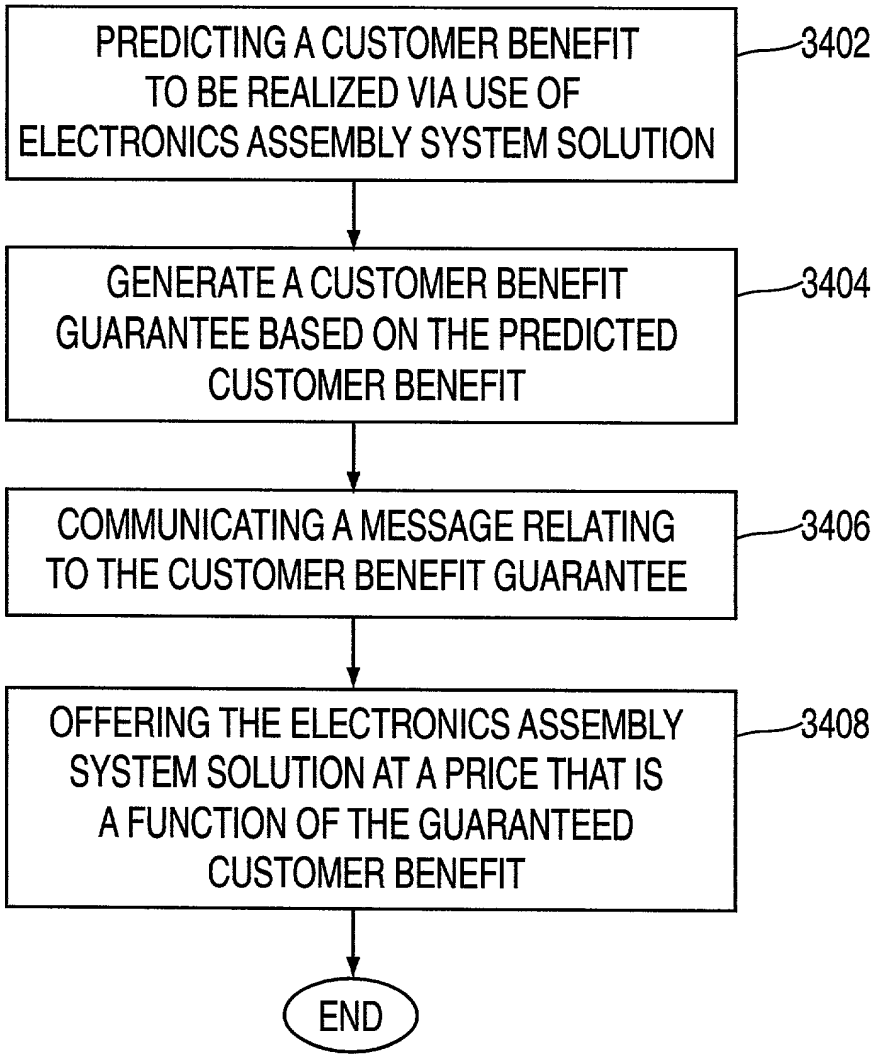

PREDICTING A CUSTOMER BENEFIT TO BE REALIZED VIA USE OF ELECTRONICS ASSEMBLY SYSTEM SOLUTION
3402
GENERATE A CUSTOMER BENEFIT GUARANTEE BASED ON THE PREDICTED CUSTOMER BENEFIT
3404
COMMUNICATING A MESSAGE RELATING TO THE CUSTOMER BENEFIT GUARANTEE
3406
OFFERING THE ELECTRONICS ASSEMBLY SYSTEM SOLUTION AT A PRICE THAT IS A FUNCTION OF THE GUARANTEED CUSTOMER BENEFIT
3408
END

FIG. 34

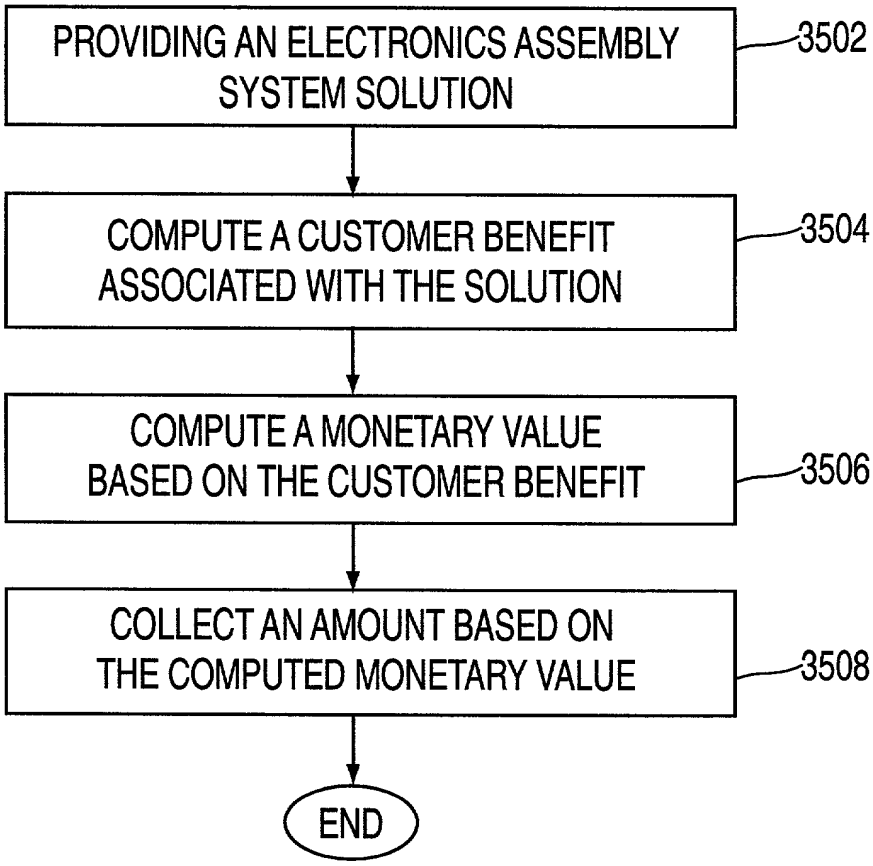


FIG. 35

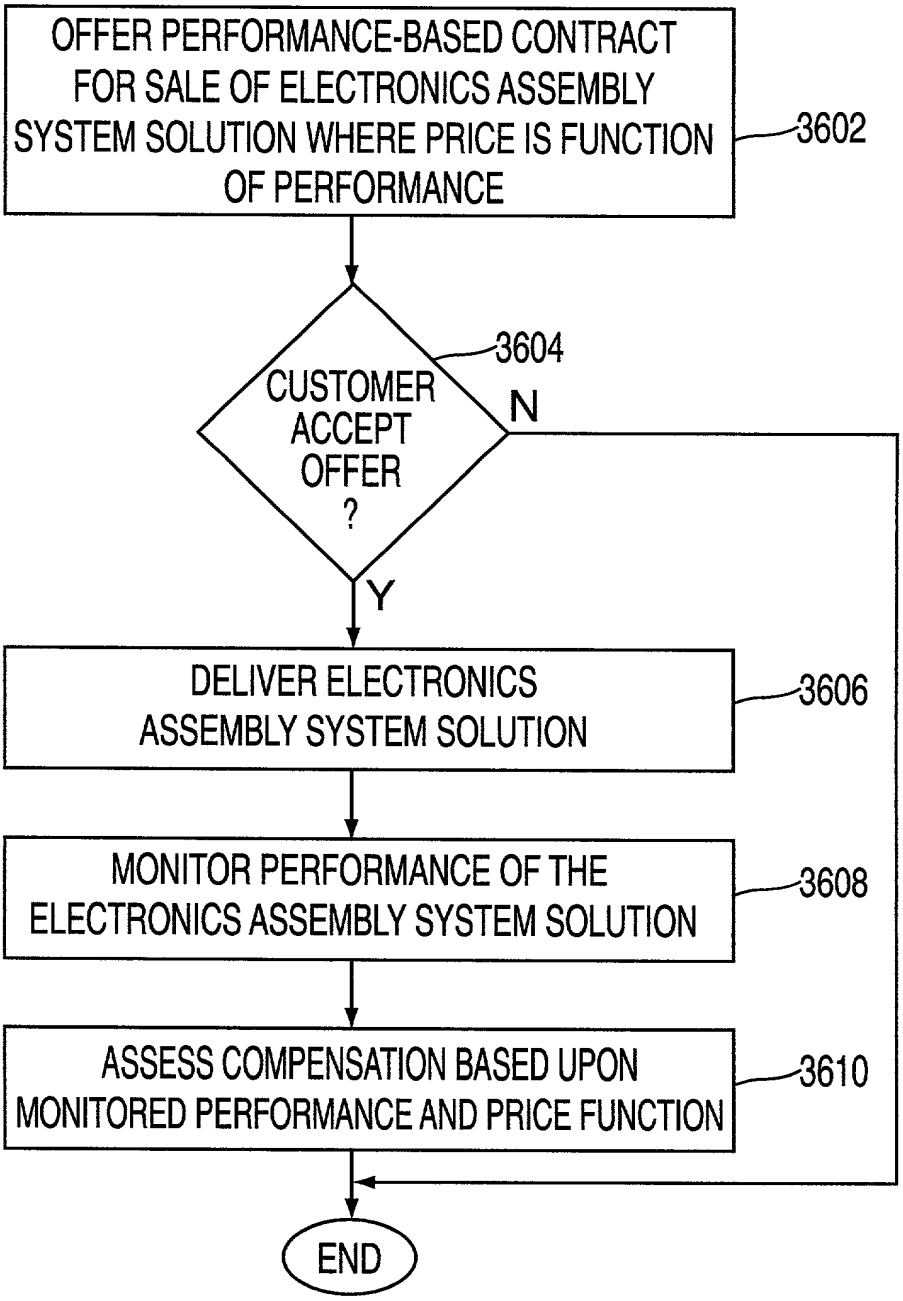

OFFER PERFORMANCE-BASED CONTRACT FOR SALE OF ELECTRONICS ASSEMBLY SYSTEM SOLUTION WHERE PRICE IS FUNCTION OF PERFORMANCE
3602
CUSTOMER ACCEPT OFFER ?
3604
N
Y
DELIVER ELECTRONICS ASSEMBLY SYSTEM SOLUTION
3606
MONITOR PERFORMANCE OF THE ELECTRONICS ASSEMBLY SYSTEM SOLUTION
3608
ASSESS COMPENSATION BASED UPON MONITORED PERFORMANCE AND PRICE FUNCTION
3610
END

FIG. 36